PIONEER®
The Art of Entertainment

Service Manual

DEH-P646

ORDER NO.
CRT2149

MULTI-CD CONTROL HIGH POWER CD PLAYER WITH FM/AM TUNER

DEH-P646 ES
DEH-546 ES

COMPACT disc DIGITAL AUDIO

- **See the separate manual CX-597(CRT1829) for the CD mechanism description, disassembly and circuit description.**
- **The CD mechanism employed in this model is one of S7 series.**

CONTENTS

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PIONEER ELECTRONIC [EUROPE] N.V. Haven 1087 Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE.LTD. 501 Orchard Road, #10-00, Lane Wheelock Place, Singapore 23880

K-FEA. FEB. 1998 Printed in Japan

● **CD Player Service Precautions**

1. For pickup unit(CXX1230) handling, please refer to"Disassembly"(CX-597 Service Manual CRT1829). During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 54).

1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.
Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty.
If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

2. EXPLODED VIEWS AND PARTS LIST

2.1 PACKING

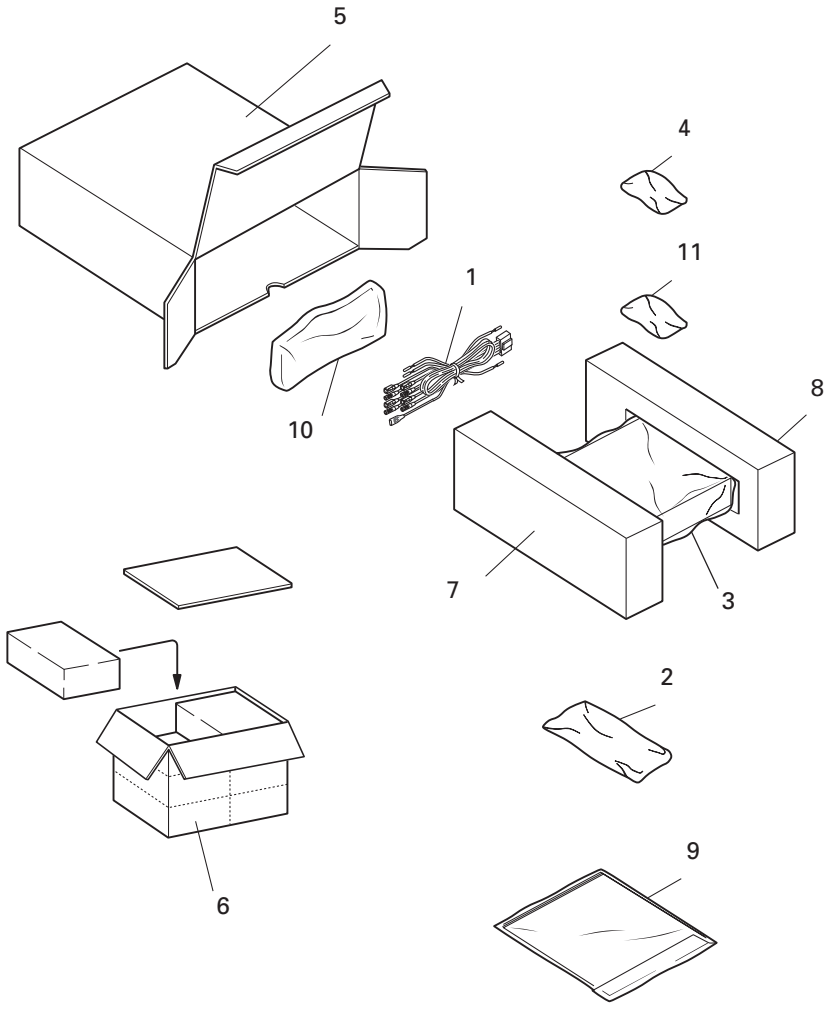


Fig. 1

NOTE:

- Parts marked by "*"are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

● PACKING SECTION PARTS LIST

Mark No.	Description	Part No.
1	Cord Assy(DEH-P646/ES)	CDE5483
	Cord Assy(DEH-546/ES)	CDE5484
2	Accessory Assy	CEA2002
3	Polyethylene Bag	CEG-162
4	Battery	CEX1030
5	Carton(DEH-P646/ES)	CHG3437
	Carton(DEH-546/ES)	CHG3446
6	Contain Box(DEH-P646/ES)	CHL3437
	Contain Box(DEH-546/ES)	CHL3446
7	Protector	CHP1766
8	Protector	CHP1767
9-1	Polyethylene Bag	CEG1116
9-2	Owner's Manual(DEH-P646/ES)	CRD2561
	Owner's Manual(DEH-546/ES)	CRD2714
9-3	Owner's Manual(DEH-P646/ES)	CRD2562
9-4	Installation Manual (DEH-P646/ES)	CRD2563
	Installation Manual (DEH-546/ES)	CRD2579
9-5	Caution Card	CRP1182
10	Case Assy	CXB1063
11	Remote Control Unit	CXB1225

● Owner's Manual

Model	Part No.	Language
DEH-P646/ES	CRD2561	English, Spanish
	CRD2562	Portuguese, Arabic
DEH-546/ES	CRD2714	English, Spanish, Portuguese, Arabic

● Installation Manual

Model	Part No.	Language
DEH-P646/ES	CRD2563	English, Spanish, Portuguese, Arabic
DEH-546/ES	CRD2579	English, Spanish, Portuguese, Arabic

● Accessory Assy

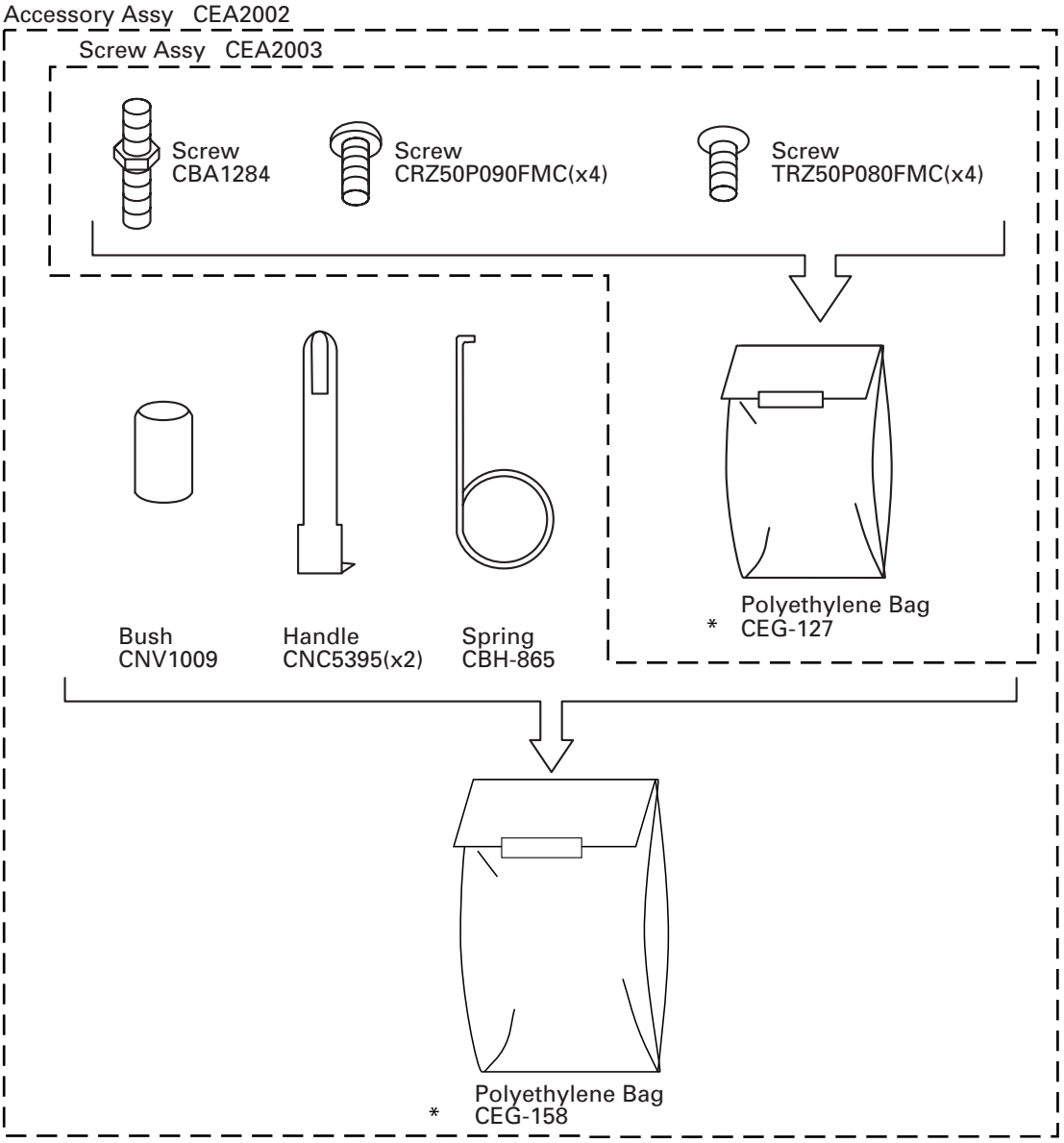


Fig. 2

2.2 EXTERIOR

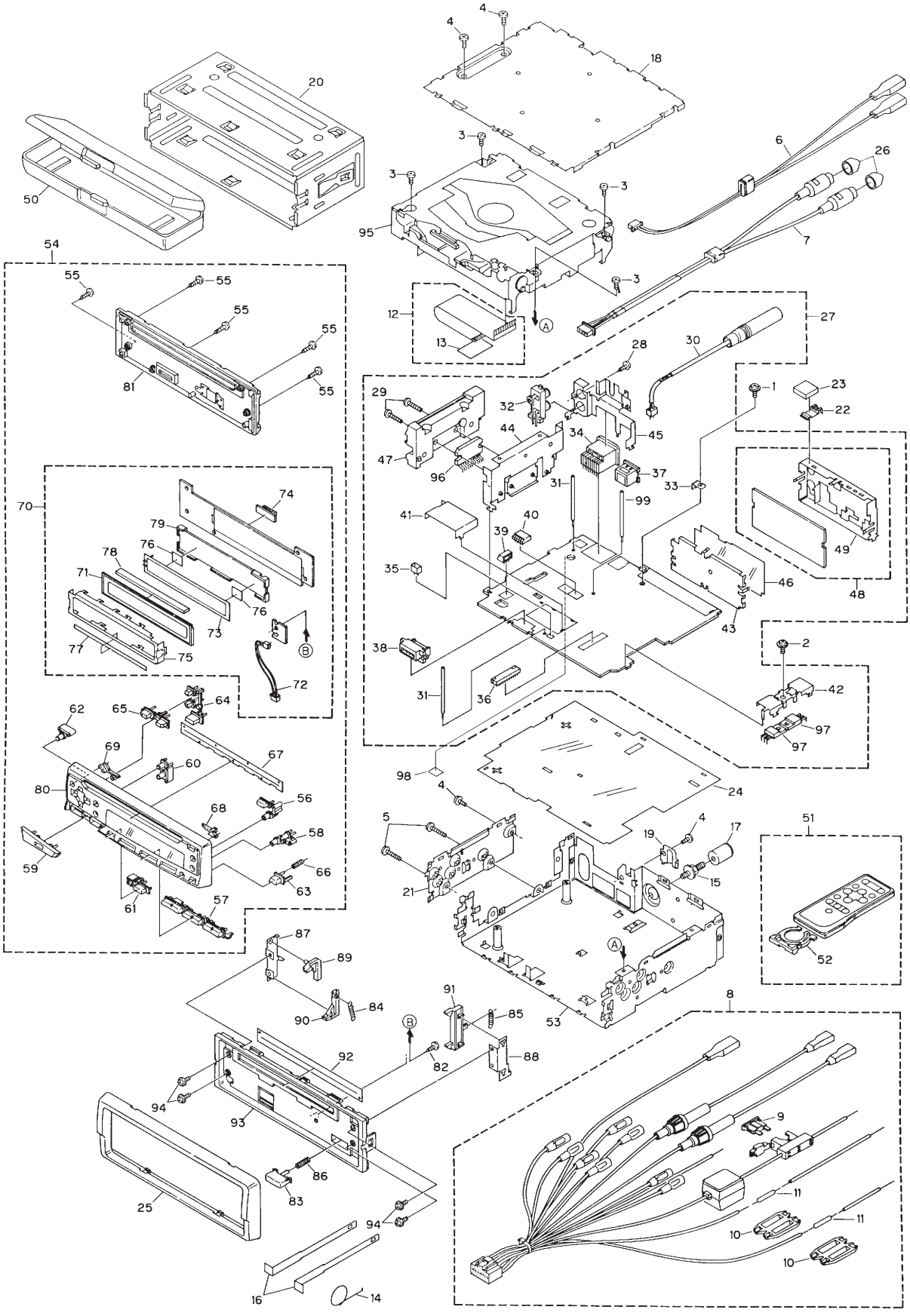


Fig. 3

● EXTERIOR SECTION PARTS LIST

(1) PARTS LIST

Mark	No.	Description	Part No.
	1	Screw	ASZ26P055FUC
	2	Screw	ASZ26P080FMC
	3	Screw	BSZ26P050FMC
	4	Screw	BSZ30P060FMC
	5	Screw	BSZ30P180FMC
	6	Cord Assy	See Contrast table(2)
	7	Cord Assy	See Contrast table(2)
	8	Cord Assy	See Contrast table(2)
	9	Fuse	CEK1136
	10	Cap	CNS1472
	11	Resistor	RS1/2PMF102J
	12	Cable	CDE5635
	13	Insulator	CNM5761
	14	Spring	CBH-865
	15	Screw	CBA1284
	16	Handle	CNC5395
	17	Bush	CNV1009
	18	Case	CNB2119
	19	Holder	CNC4963
	20	Holder	CNC6798
	21	Holder	CNC6862
	22	Earth Terminal	CNC7358
	23	Spacer	CNM4913
	24	Insulator	CNM5535
	25	Panel	CNS4200
	26	Cap	See Contrast table(2)
	27	Tuner Amp Unit	See Contrast table(2)
	28	Screw	BPZ26P080FMC
	29	Screw	BSZ26P140FMC
	30	Antenna Cord	CDH1234
	31	Clamper	CEF1009
	32	Pin Jack(CN253)	CKB1028
	33	Terminal(CN501)	CKF1059
	34	Plug(CN901)	CKM1278
	35	Plug(CN802)	CKS-783
	36	Connector(CN651)	CKS2228
	37	Connector(CN101)	See Contrast table(2)
	38	Connector(CN801)	CKS3581
	39	Connector(CN851)	See Contrast table(2)
	40	Connector(CN254)	See Contrast table(2)
	41	Holder	CNC5968
	42	Holder	CNC6132
	43	Holder	CNC6356
	44	Holder	CNC7429
	45	Holder	See Contrast table(2)
	46	Insulator	CNM4684
	47	Heat Sink	CNR1458
	48	FM/AM Tuner Unit	CWE1485
	49	Holder	CNC6555
	50	Case Assy	CXB1063
	51	Remote Control Unit	CXB1225
	52	Cover	CNS4139
	53	Chassis Unit	See Contrast table(2)
	54	Detach Grille Assy	See Contrast table(2)
	55	Screw	BPZ20P100FZK
	56	Button	CAC5397
	57	Button	CAC5398
	58	Button	CAC5399
	59	Button	CAC5402
	60	Button	CAC5403
	61	Button	CAC5404
	62	Button	CAC5405
	63	Button	CAC5430
	64	Button	CAC5450
	65	Button	CAC5451
	66	Spring	CBH2103
	67	Cover	CNM4704
	68	Lighting Conductor	CNV5180
	69	Lighting Conductor	CNV5181
	70	Keyboard Unit	See Contrast table(2)
	71	LCD	See Contrast table(2)
	72	Cord	CDE5665
	73	EL	CEL1536
	74	Connector(CN1801)	CKS3580
	75	Holder	CNC7435
	76	Film	CNM4349
	77	Spacer	CNM5449
	78	Connector	CNV5182
	79	Housing	CNV5183
	80	Grille Unit	See Contrast table(2)
	81	Cover Unit	CXB2480
	82	Screw	BPZ20P060FMC
	83	Button	CAC5180
	84	Spring	CBH1834
	85	Spring	CBH1835
	86	Spring	CBH1996
	87	Bracket	CNC6135
	88	Bracket	CNC6791
	89	Arm	CNV4692
	90	Arm	CNV4693

Mark No.	Description	Part No.
91	Arm	CNV4951
92	Cover	CNM4875
93	Panel	See Contrast table(2)
94	Screw	IMS20P030FZK
95	CD Mechanism Module	CXK5004
96	IC(IC201)	TDA7386
97	Transistor(Q951, 971)	2SD2396
98	Spacer	CNM5875
99	Clamper	See Contrast table(2)

(2) CONTRAST TABLE

DEH-P646/ES and DEH-546/ES are constructed same except for the following:

Mark No.	Symbol and Description	Part No.	
		DEH-P646/ES	DEH-546/ES
6	Cord Assy	CDE5185	Not used
7	Cord Assy	CDE5209	Not used
8	Cord Assy	CDE5483	CDE5484
26	Cap	CNV2680	Not used
27	Tuner Amp Unit	CWM5622	CWM5630
37	Connector(CN101)	CKS3408	Not used
39	Connector(CN851)	CKS3597	Not used
40	Connector(CN254)	CKS3598	Not used
45	Holder	CNC7430	CNC7434
53	Chassis Unit	CXB1984	CXB1989
54	Detach Grille Assy	CXB1996	CXB2006
70	Keyboard Unit	CWM5636	CWM5640
71	LCD	CAW1459	CAW1479
80	Grille Unit	CXB1969	CXB1979
93	Panel	CNS4451	CNS4869
99	Clamper	CEF1009	Not used

2.3 CD MECHANISM MODULE

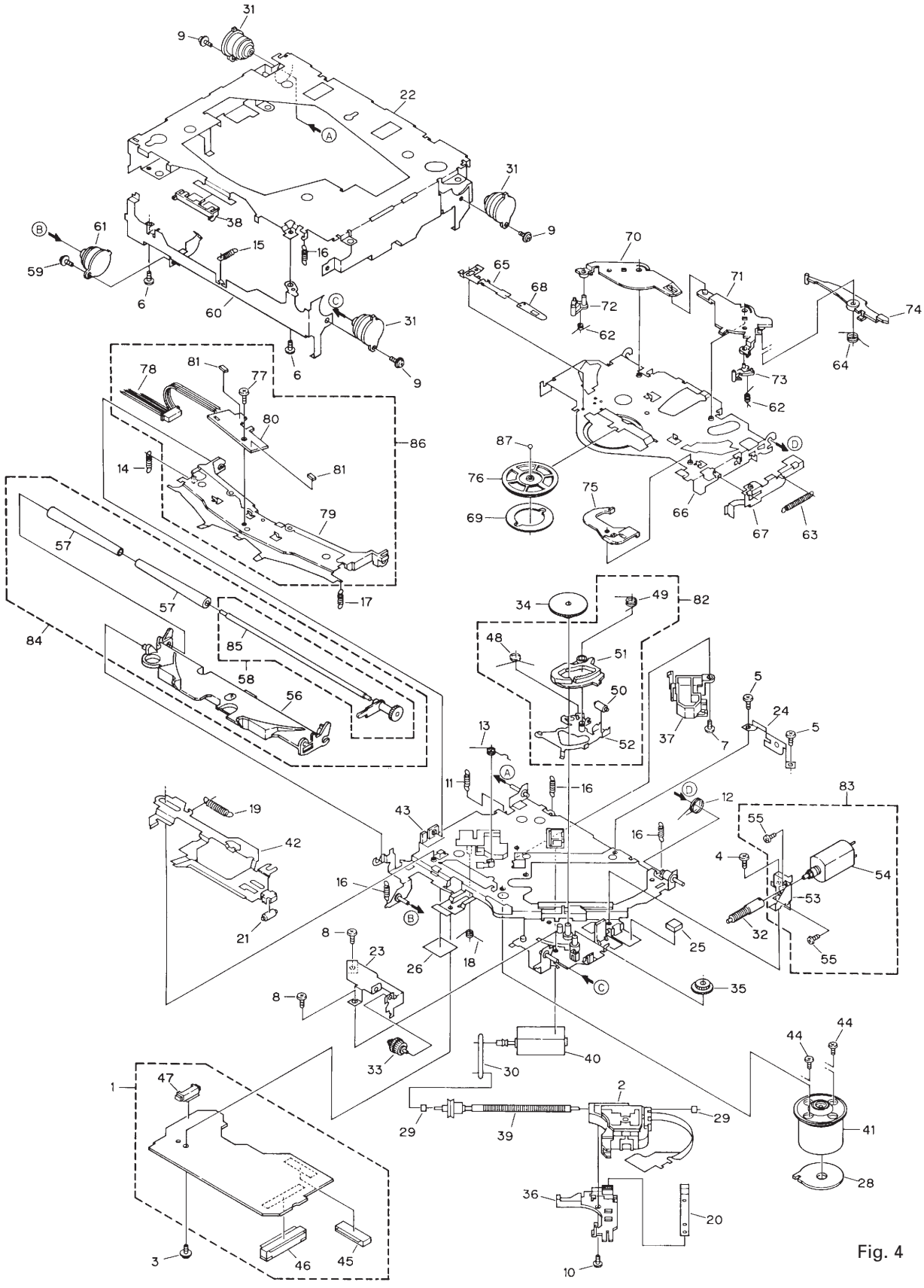


Fig. 4

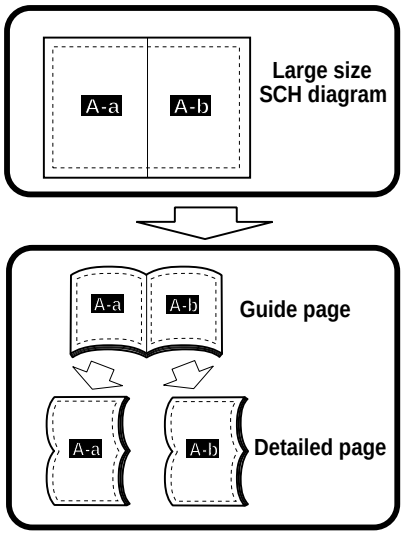
● CD MECHANISM MODULE SECTION PARTS LIST

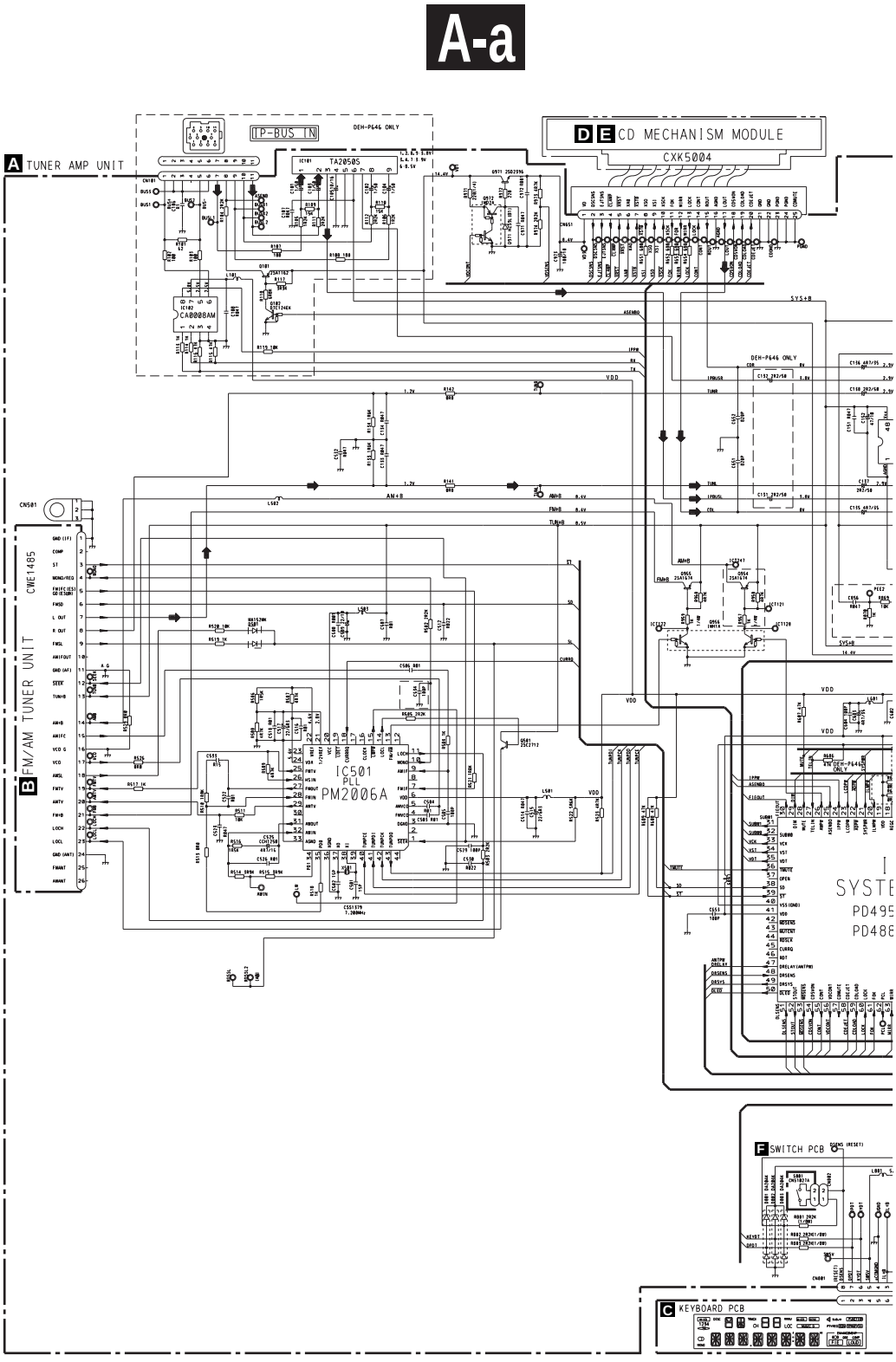
Mark	No.	Description	Part No.
	1	Control Unit	CWX2224
	2	Pickup Unit(Service)	CXX1230
	3	Screw	IMS26P035FMC
	4	Screw	BMZ20P025FMC
	5	Screw	BMZ20P040FMC
	6	Screw	BSZ20P040FMC
	7	Screw	CBA1077
	8	Screw	CBA1250
	9	Screw	CBA1296
	10	Screw	CBA1362
	11	Spring	CBH1724
	12	Spring	CBH1729
	13	Spring	CBH1730
	14	Spring	CBH1731
	15	Spring	CBH1732
	16	Spring	CBH1745
	17	Spring	CBH1848
	18	Spring	CBH1849
	19	Spring	CBH1939
	20	Spring	CBL1214
	21	Roller	CLA2627
	22	Frame	CNC5796
	23	Bracket	CNC5871
*	24	Bracket	CNC6376
	25	Cushion	CNM3917
	26	Sheet	CNM4873
	27	•••••	
	28	PCB	CNP4230
	29	Bearing	CNR1415
	30	Belt	CNT1071
	31	Damper	CNV3974
	32	Gear	CNV4128
	33	Gear	CNV4129
	34	Gear	CNV4130
	35	Gear	CNV4131
	36	Holder	CNV4663
	37	Holder	CNV5071
	38	Guide	CNV4484
	39	Screw Unit(S7)	CXA8699
	40	CRG Motor Unit(S7)	CXA8986
	41	Motor Unit	CXA8912
	42	Lever Unit	CXA9300
	43	Chassis Unit	CXB2574
	44	Screw	JFZ20P025FMC
	45	Connector(CN101)	CKS1953
	46	Connector(CN701)	CKS2774
	47	Connector(CN801)	CKS2196
	48	Spring	CBH1832
	49	Spring	CBH1833
	50	Roller	CLA2627
	51	Arm	CNV4136
	52	Arm Unit	CXA8565
	53	Bracket	CNC6056
	54	Load Motor Unit(S7)	CXA8702
	55	Screw	JFZ20P025FMC
	56	Arm	CNV4120
	57	Roller	CNV4509
	58	Gear Unit(S7)	CXA8701
	59	Screw	CBA1296
	60	Frame	CNC5797
	61	Damper	CNV3974
	62	Spring	CBH1736
	63	Spring	CBH1863
	64	Spring	CBH1945
	65	Spring	CBL1269
	66	Arm	CNC5799
	67	Lever	CNC6054
	68	Spacer	CNM3315
	69	Sheet	CNM4849
	70	Arm	CNV5436
	71	Arm	CNV4123
	72	Arm	CNV4124
	73	Arm	CNV4125
	74	Arm	CNV4138
	75	Arm	CNV4139
	76	Clamper	CNV5308
	77	Screw	CBA1250
	78	Connector(CN1)	CDE4576
	79	Arm	CNC7383
*	80	Gathering PCB	CNX2445
	81	Photo-transistor(Q1, 2)	CPT-230S-X
	82	ELBO Arm Assy(S7)	CXA8889
	83	Load Motor Assy(S7)	CXA8891
	84	LO Arm Assy(S7)	CXA8892
	85	Shaft	CLA3133
	86	Guide Arm Assy(S7)	CXB1850
	87	Ball	CNR1189

3. SCHEMATIC DIAGRAM

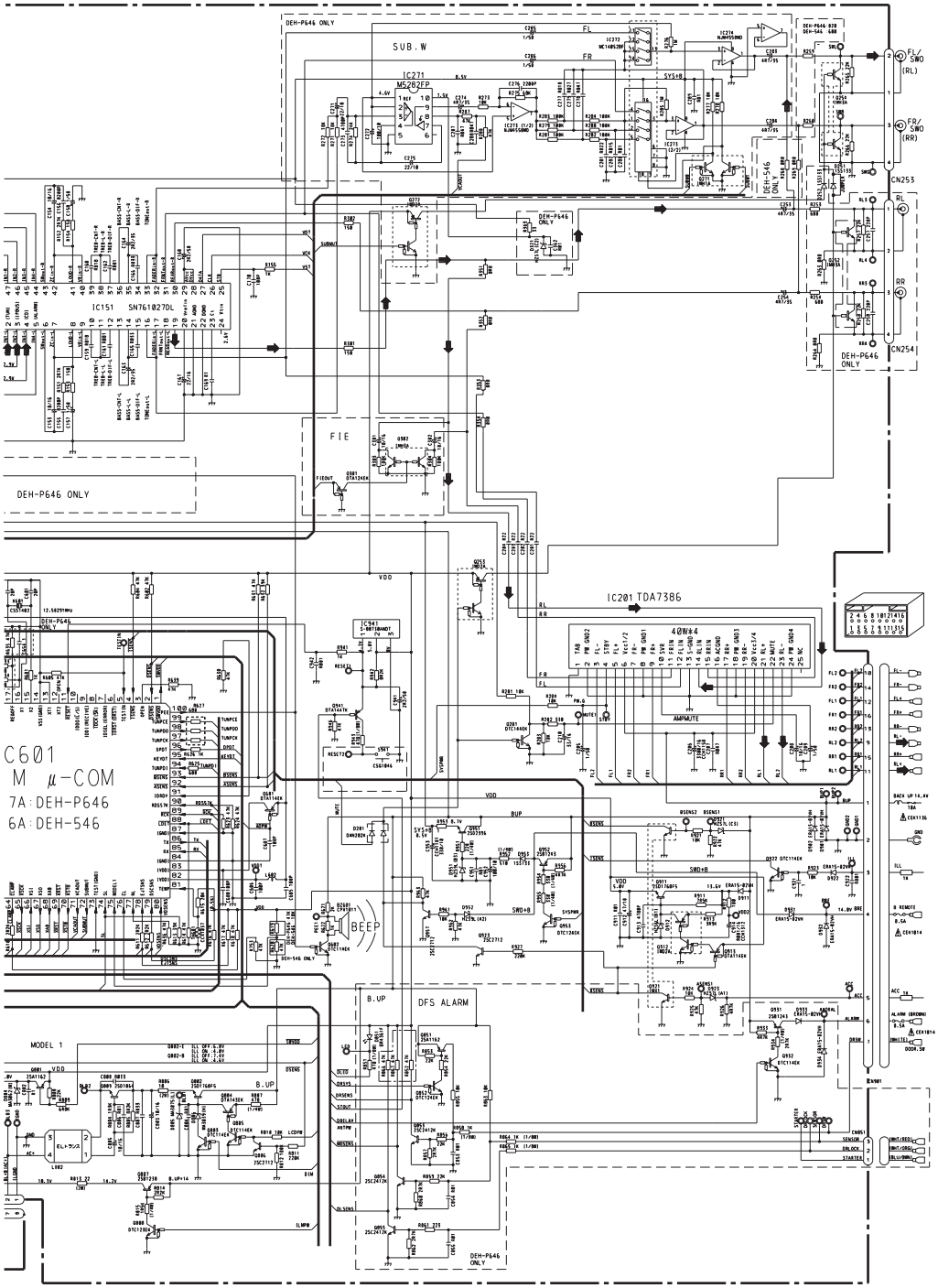
3.1 OVERALL CONNECTION DIAGRAM(GUIDE PAGE)

Note: When ordering service parts, be sure to refer to “EXPLODED VIEWS AND PARTS LIST” or “ELECTRICAL PARTS LIST”.





A-b

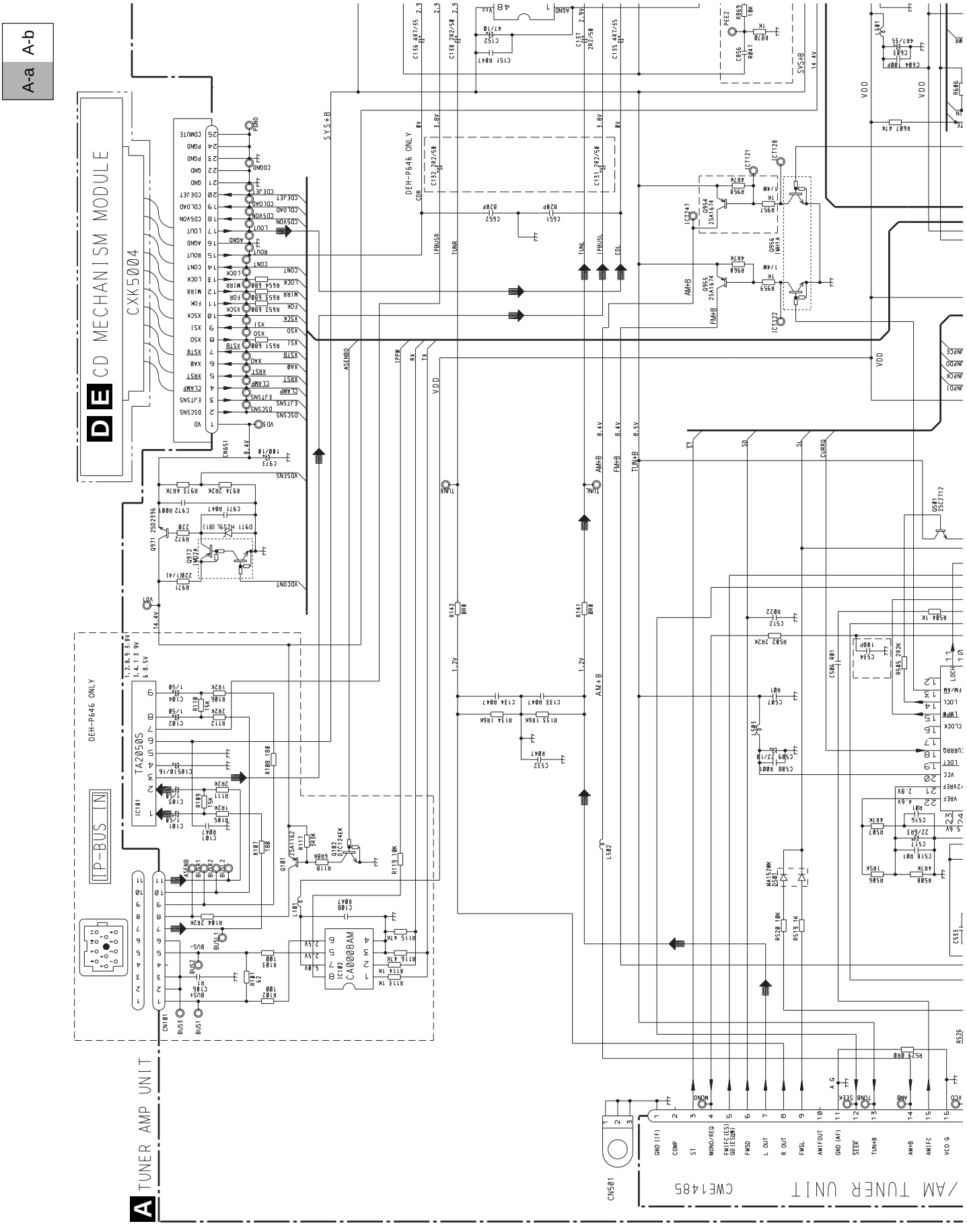


NOTE:
- Symbol indicates a resistor. No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor. No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

The Δmark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

Fig. 5


A-a A-b
DE CD MECHANISM MODULE CXK5004
DEH-P646 ONLY
IP-BUS IN
TA2050S
CA0008AM
TUNER AMP UNIT
/AM TUNER UNIT CWE1485
CN501
CN101
GND (IF)
COMP
ST
MONO/REQ
FM IF(IES) OUT(ESUM)
FMSD
L OUT
R OUT
FMSL
AMIFOUT
GND (AF)
SEEK
TUN+B
AM+B
AMIFC
VCO G

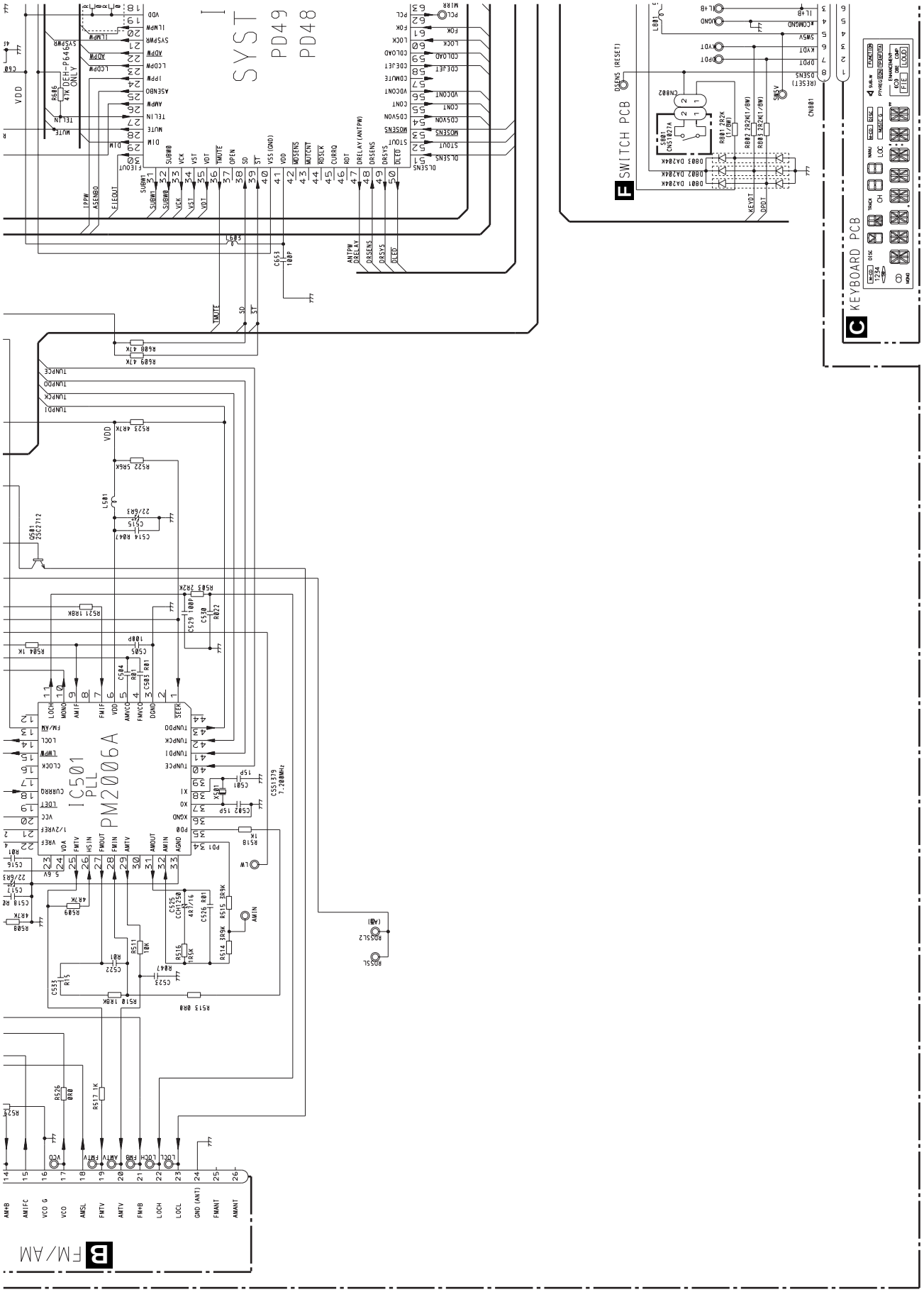
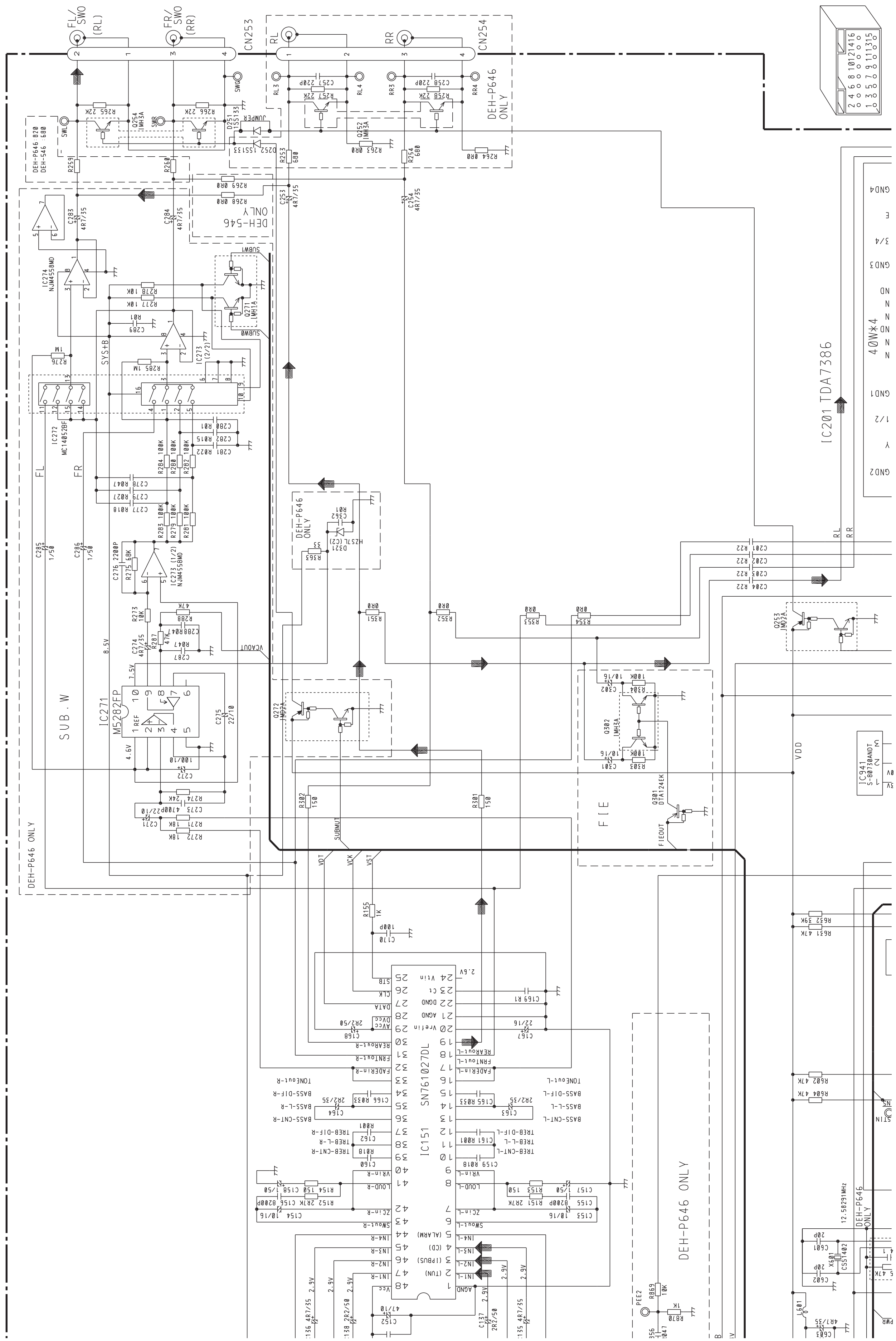

SYST I
PD49
PD48
IC501
PLL
PM2006A
B FM/AM
E SWITCH PCB
C KEYBOARD PCB

Fig. 6

A-b
A-a


FL/SWO (RL)
FR/SWO (RR)
CN253
RL
RR
CN254
DEH-P646 ONLY
DEH-546 ONLY
IC274 NJM4558MD
IC273 (1/2) NJM4558MD
IC272 MC14052BF
IC271 M5282FP
SUB.W
DEH-P646 ONLY
IC201 TDA7386
40W×4
IC151 SN761027DL
FIE
VDD
DEH-P646 ONLY

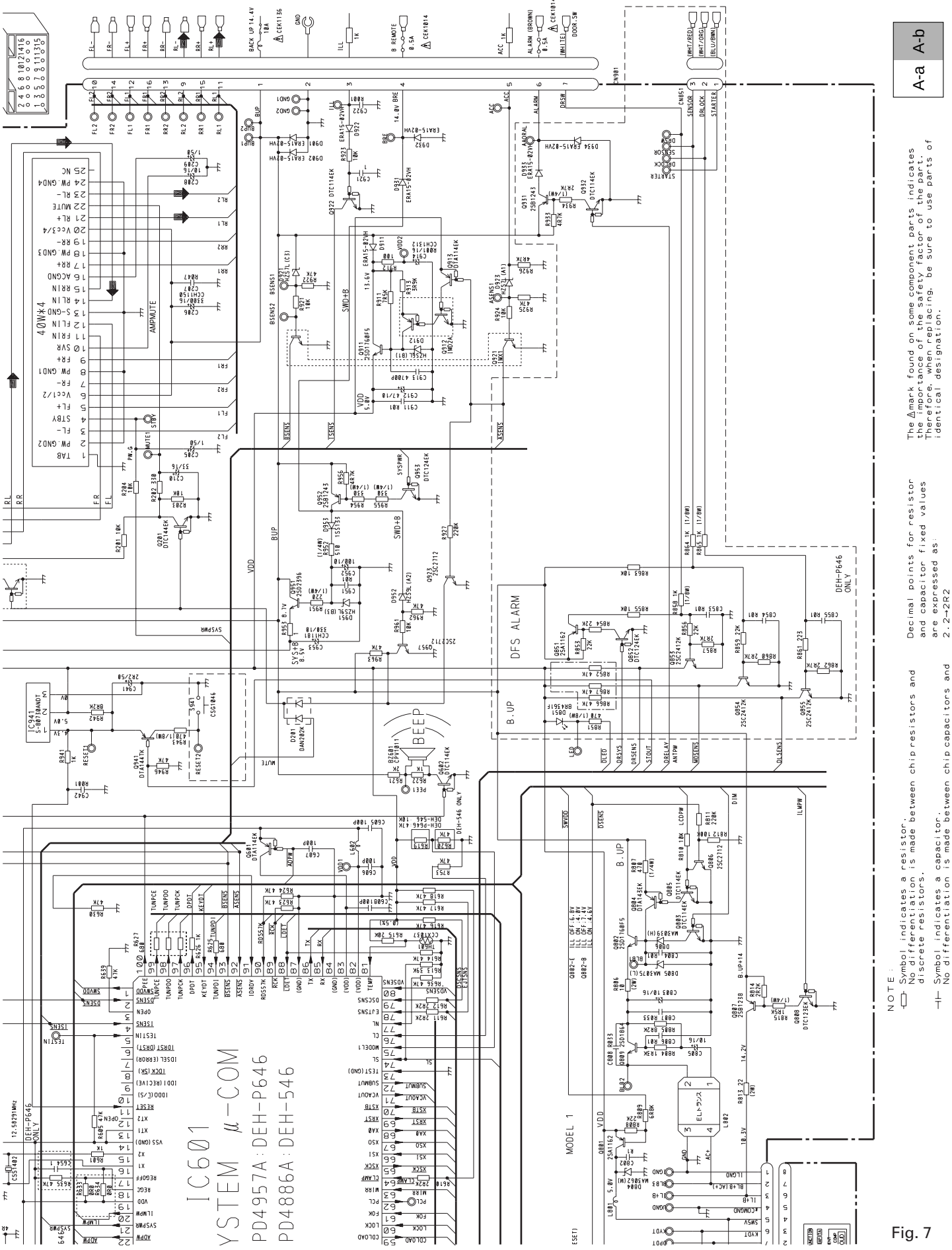
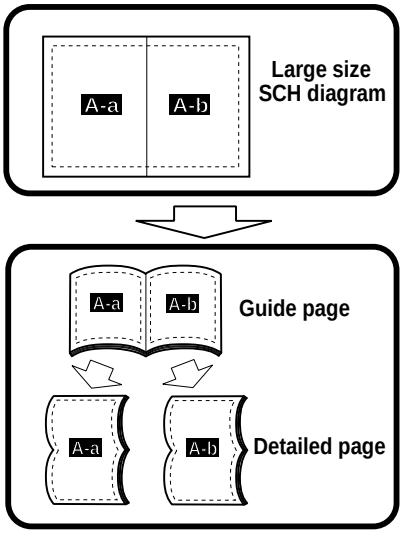

IC601
SYSTEM μ-COM
PD4957A:DEH-P646
PD4886A:DEH-546
MODEL 1
DFS ALARM
B.UP
BEEP
DEH-P646 ONLY
DEH-546 ONLY
40W×4
AMPMUTE
12.58291MHz
NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.
The △mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
Decimal points for resistor and capacitor fixed values are expressed as:
2.2→2R2
0.022→R022

Fig. 7

3.2 CD MECHANISM MODULE(GUIDE PAGE)



D-a

SERVICE
PICKUP UNIT(CXX1230)

D CONTROL UNIT

RF AMP/AUTO POWER CONTROL

IC101 UPC2572GS

IC301 BA6997FM

CD DRIVER

REGULATOR

LOADING DRIVER

IC302 BA6285FP

HOLOGRAM UNIT

FOCUS ACT.

TRACKING ACT.

SL SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE

E PHOTO UNIT

CXA8912

CXA8986

CXA8702

SWITCHES:
CONTROL UNIT
S801:HOME SWITCH·····ON-OFF
S802:CLAMP SWITCH·····ON-OFF
The underlined indicates the switch position.

D-b

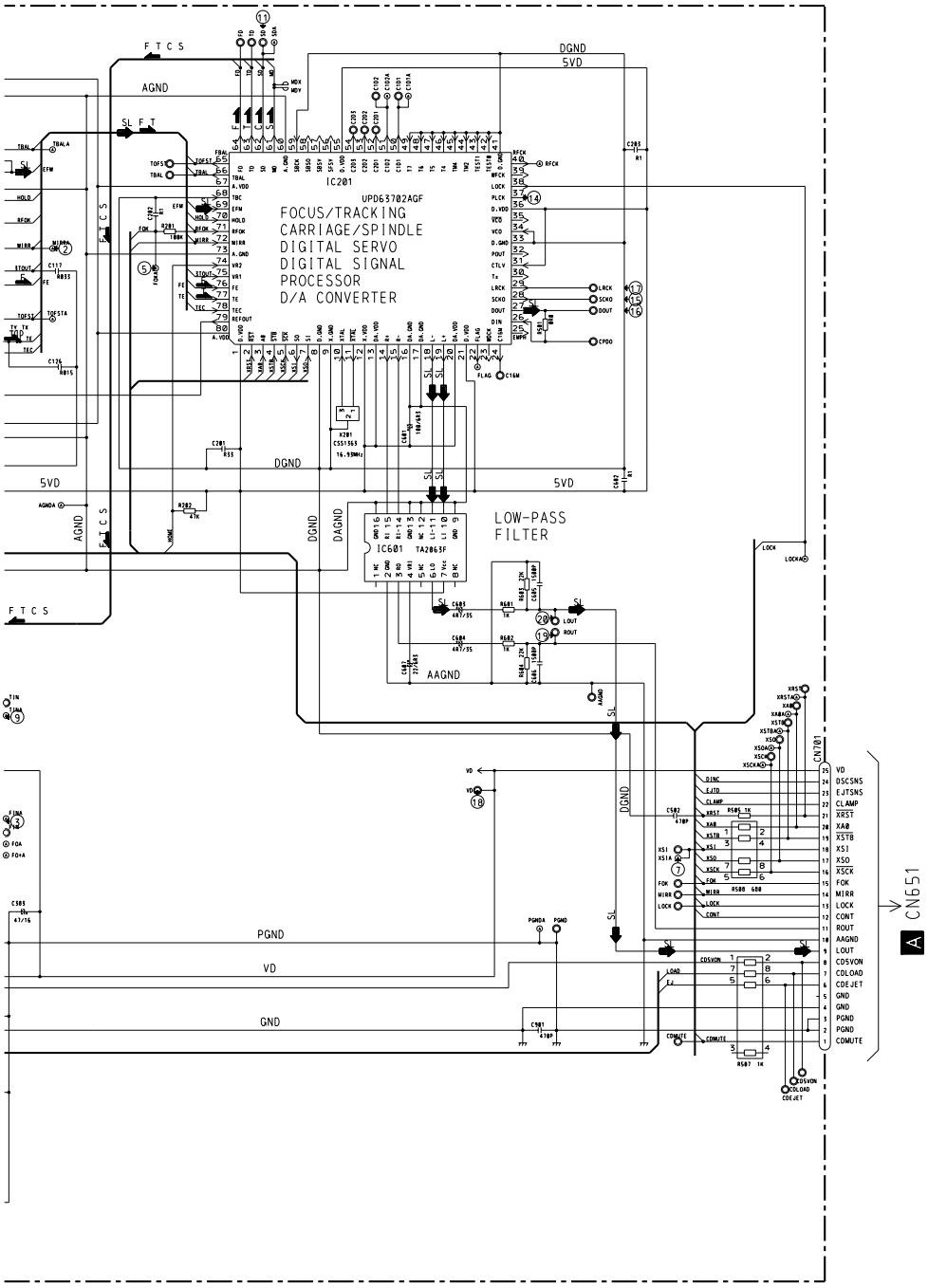
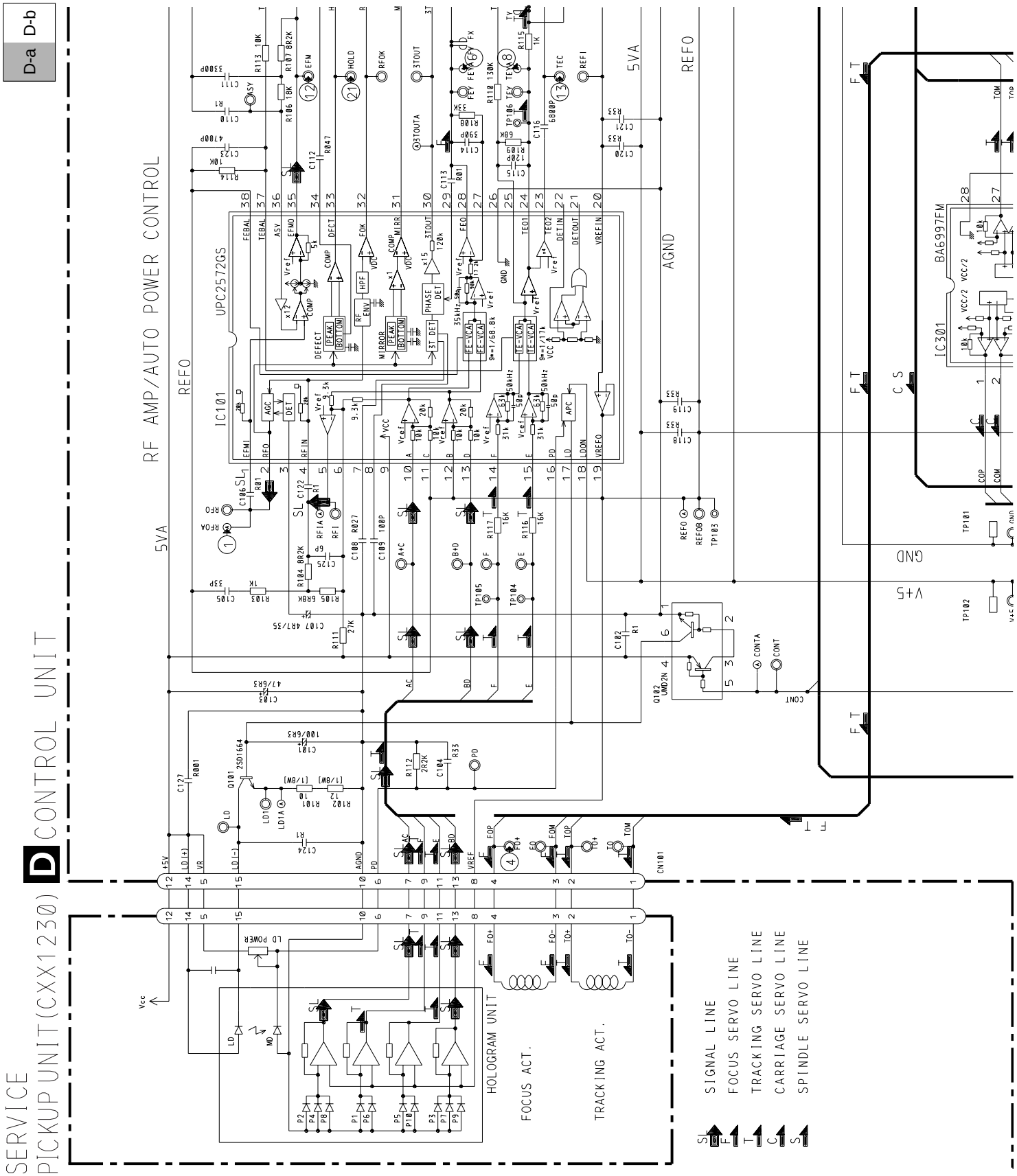
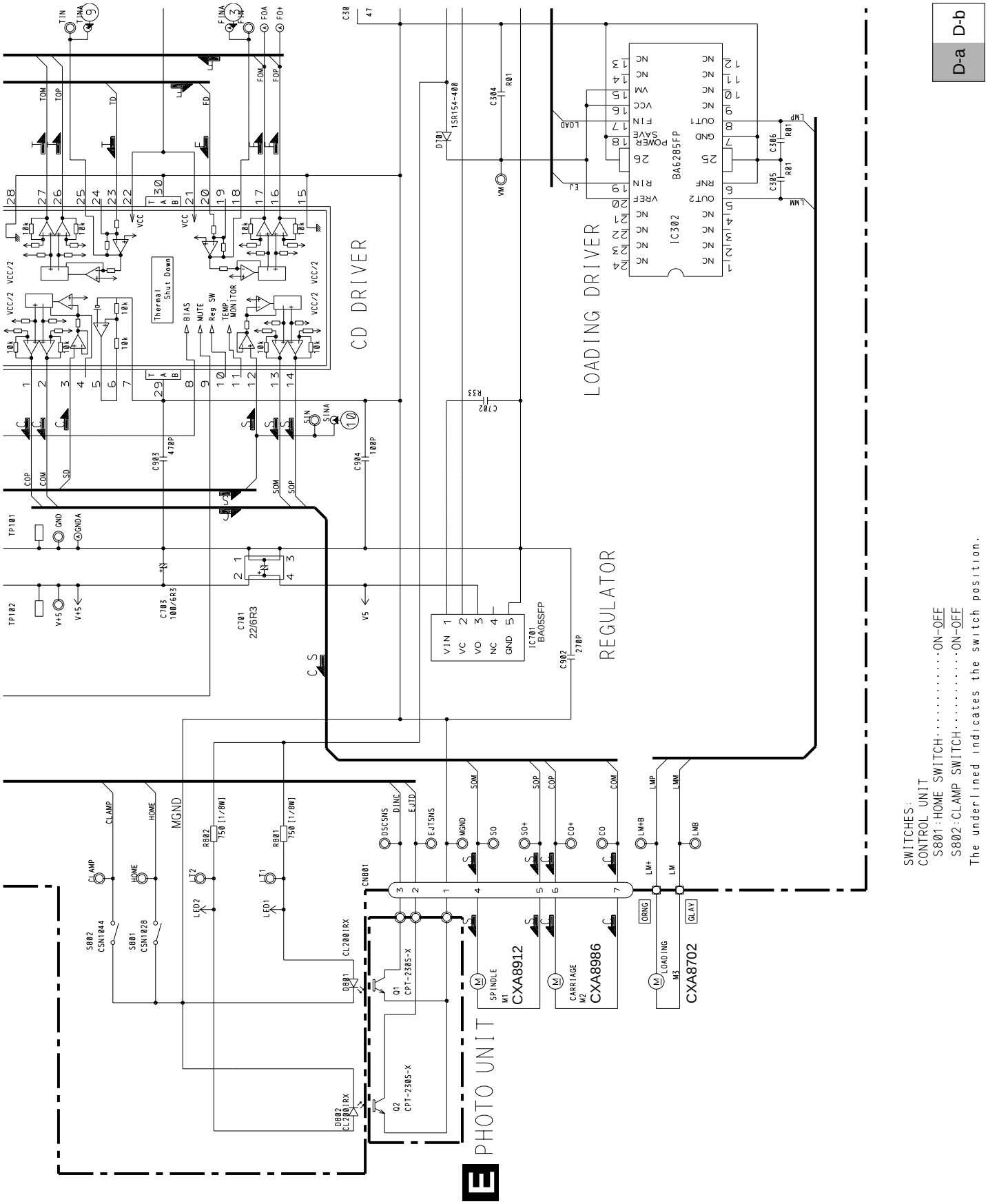

IC201
UPD63702AGF
FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
IC601 TA2063F
LOW-PASS
FILTER
CN701
CN651
DGND
5VD
AGND
DAGND
AAGND
PGND
VD
GND
F T C S
SL F T

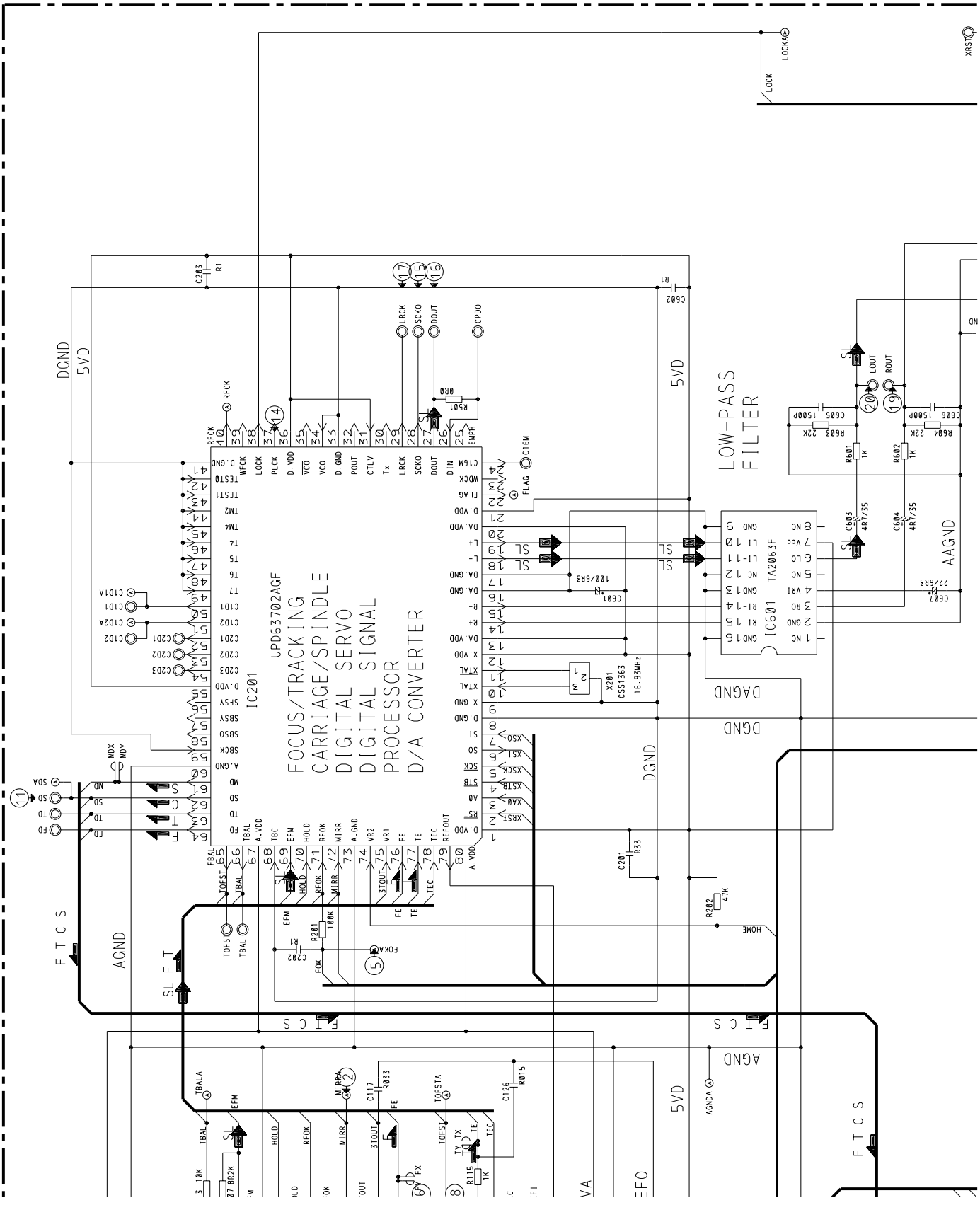
Fig. 8


D-a
D-b
D CONTROL UNIT
SERVICE
PICKUP UNIT(CXX1230)
RF AMP/AUTO POWER CONTROL
IC101
UPC2572GS
IC301
BA6997FM
HOLOGRAM UNIT
FOCUS ACT.
TRACKING ACT.
SIGNAL LINE
FOCUS SERVO LINE
TRACKING SERVO LINE
CARRIAGE SERVO LINE
SPINDLE SERVO LINE
5VA
AGND
REFO
GND
V+5
CONT
CONTA
CN101
Q102
UMD2N
Q101
2SD1664


CD DRIVER
LOADING DRIVER
REGULATOR
PHOTO UNIT
IC302 BA6285FP
IC701 BA05SFP
CXA8912
CXA8986
CXA8702
SPINDLE M1
CARRAGE M2
LOADING M3
CN601
SWITCHES:
CONTROL UNIT
S801:HOME SWITCH·····ON-OFF
S802:CLAMP SWITCH·····ON-OFF
The underlined indicates the switch position.

D-a D-b

Fig. 9


FOCUS/TRACKING
CARRIAGE/SPINDLE
DIGITAL SERVO
DIGITAL SIGNAL
PROCESSOR
D/A CONVERTER
UPD63702AGF
IC201
LOW-PASS
FILTER
TA2063F
IC601
DGND
5VD
AGND
AAGND
DAGND
LOCK
XRST
LRCK
SCKO
DOUT
CPDO
RFCK
FLAG
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FOKA
TBALA
AGNDA
HOME
SLFT
FTCS

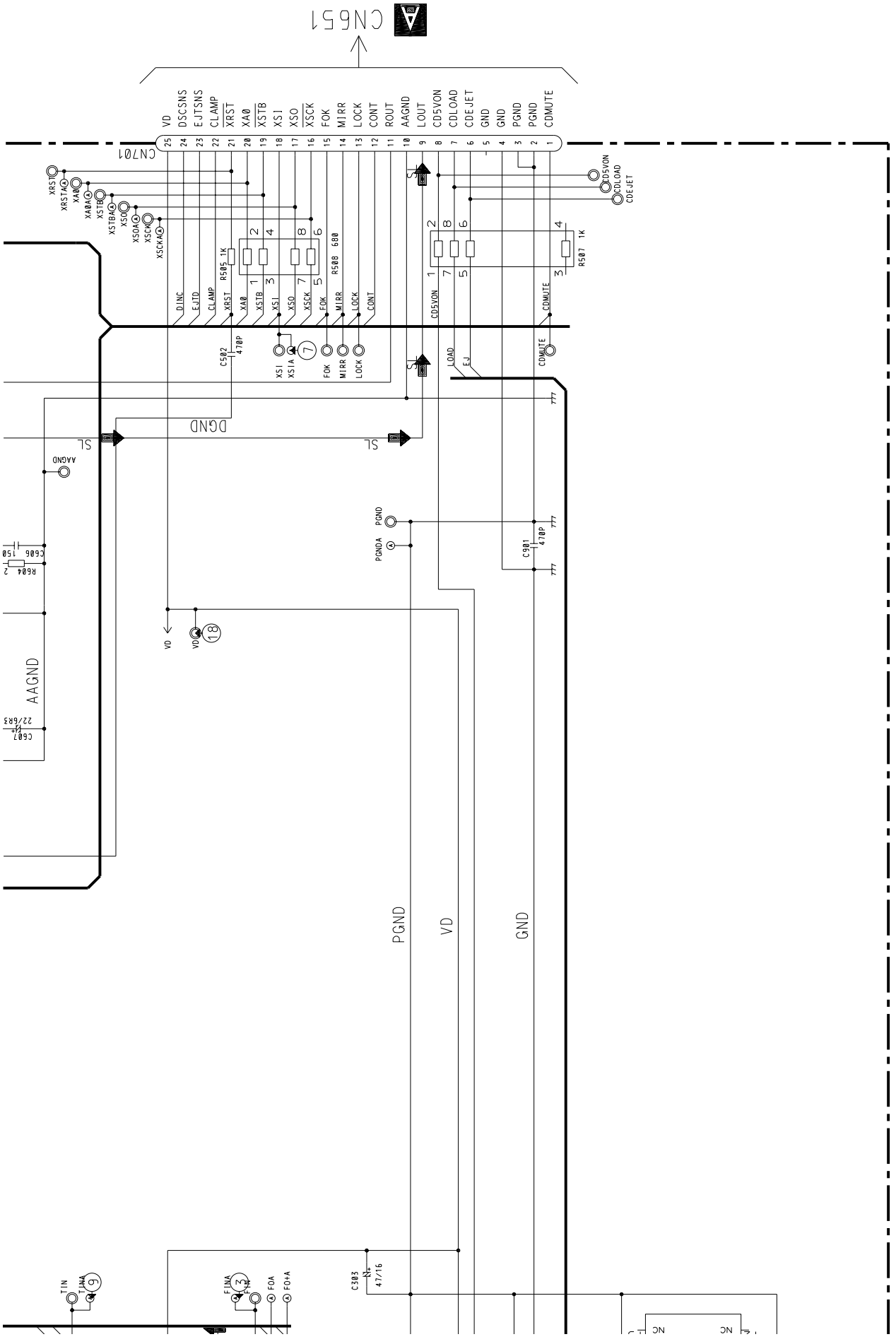
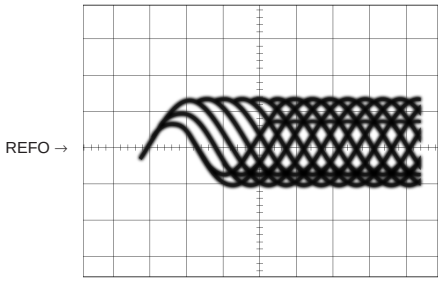

CN651
CN701
VD
DSCSNS
EJTSNS
CLAMP
XRST
XA0
XSTB
XSI
XSO
XSCK
FOK
MIRR
LOCK
CONT
ROUT
AAGND
LOUT
CDSVON
CDLOAD
CDEJET
GND
PGND
CDMUTE
R505 1K
R508 680
R507 1K
C502 470P
C901 470P
C606 150
C607 22/6R3
R604 2
DGND
AAGND
PGND
VD
GND
C303 47/16
TIN
FOA
FO+A

Fig. 10

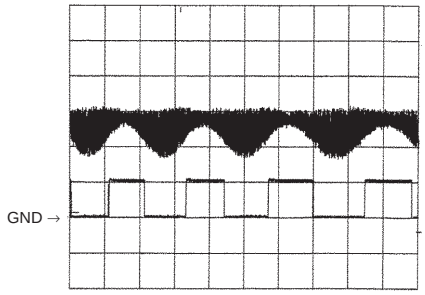
Note:1. The encircled numbers denote measuring pointes in the circuit diagram.
2. Reference voltage
REFO:2.5V

● Waveforms

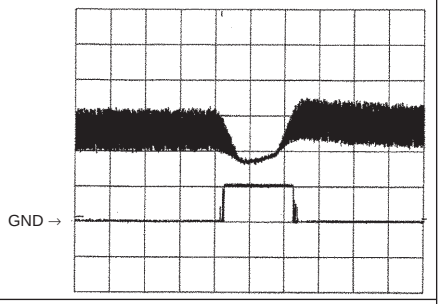
① RFO 0.5V/div. 0.5µs/div.
Normal mode: play



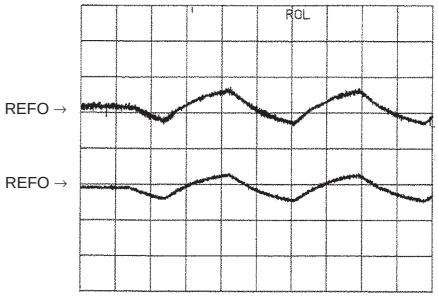
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Test mode: Tracking open



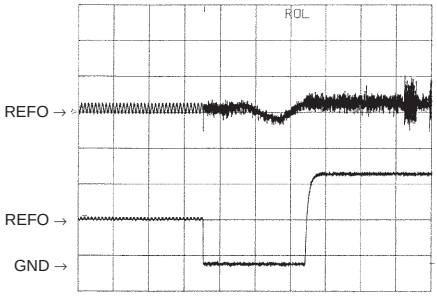
① CH1: RFO 1V/div. 0.5ms/div.
② CH2: MIRR 5V/div.
Normal mode: The defect part passes 800µm



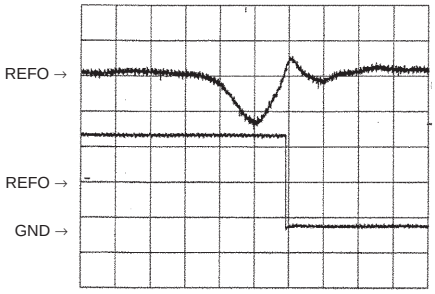
③ CH1: FIN 0.5V/div. 0.2s/div.
④ CH2: FO+ 2V/div.
Test mode: No disc, Focus close



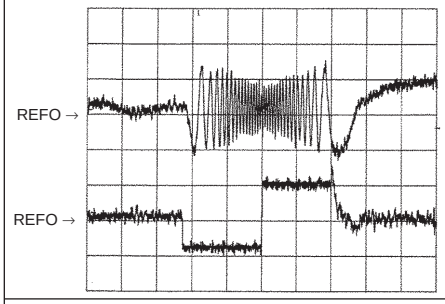
③ CH1: FIN 0.5V/div. 0.2s/div.
⑤ CH2: FOK 2V/div.
Normal mode: Focus close



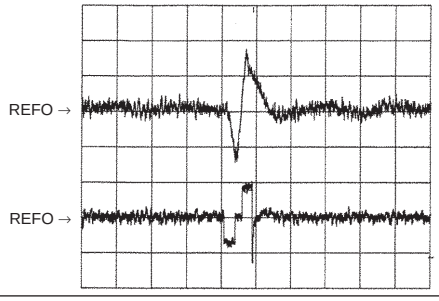
⑥ CH1: FEY 0.5V/div. 1ms/div.
⑦ CH2: XSI 2V/div.
Normal mode: Focus close



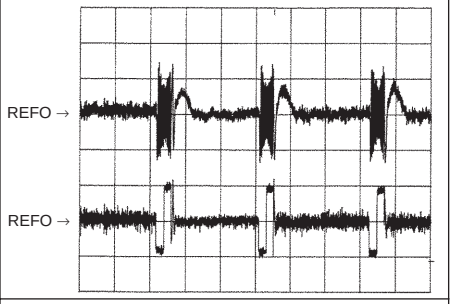
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 32 tracks jump (FWD)



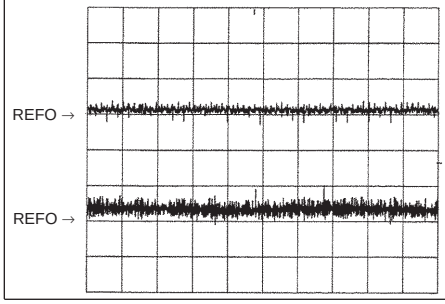
⑧ CH1: TEY 0.5V/div. 0.5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: Single jump (FWD)



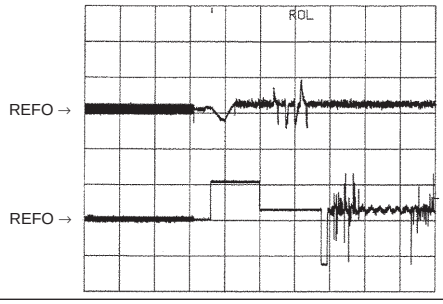
⑧ CH1: TEY 0.5V/div. 5ms/div.
⑨ CH2: TIN 0.5V/div.
Test mode: 100 tracks jump (FWD)



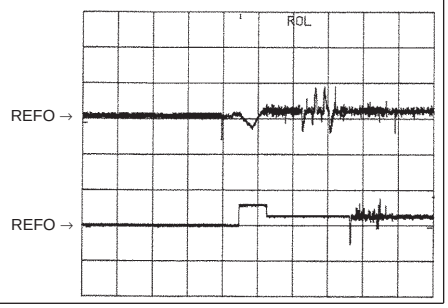
⑥ CH1: FEY 0.1V/div. 20ms/div.
③ CH2: FIN 0.2V/div.
Normal mode: Play



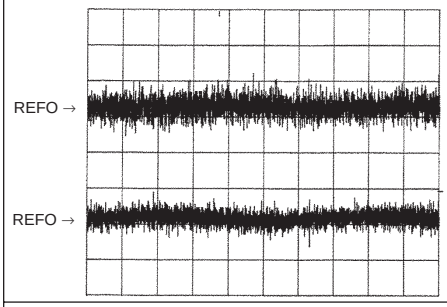
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (12cm)



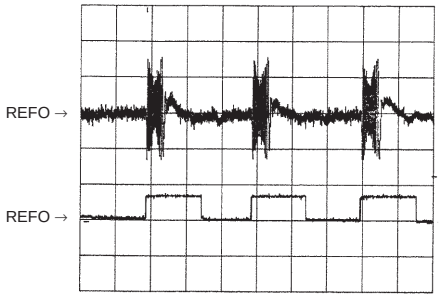
③ CH1: FIN 0.5V/div. 0.5s/div.
⑩ CH2: SIN 1V/div.
Normal mode: Focus close (8cm)



⑧ CH1: TEY 0.2V/div. 20ms/div.
⑨ CH2: TIN 0.2V/div.
Normal mode: play

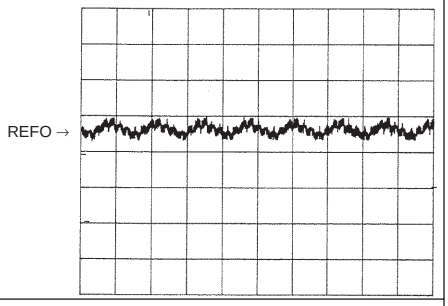


⑧ CH1: TEY 0.5V/div. 5ms/div.
⑪ CH2: SD 0.5V/div.



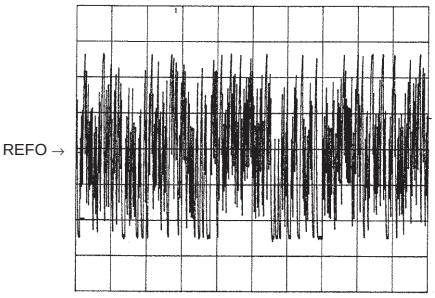
⑩ SIN 0.5V/div. 0.1s/div.

Normal mode: Play (12cm)



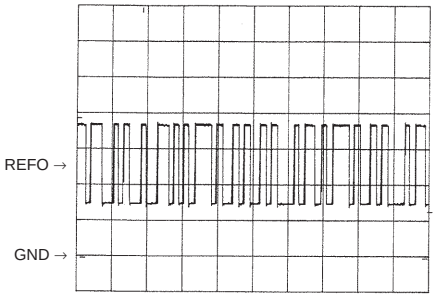
⑩ SIN 0.5V/div. 10ms/div.

Long Search (12cm)

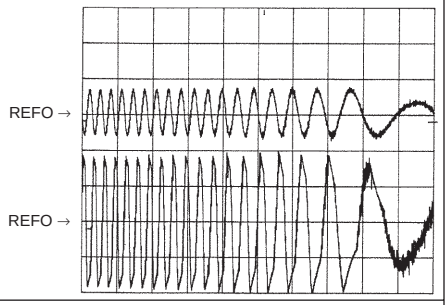


⑫ EFM 1V/div. 5µs/div.

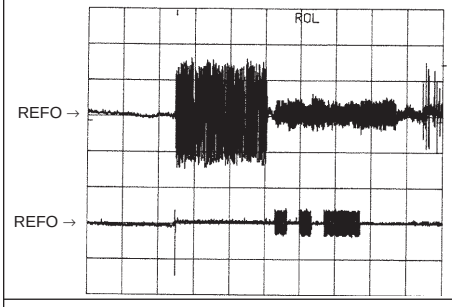
Play



⑧ CH1: TEY 1V/div. 2ms/div.
⑬ CH2: TEC 1V/div.
Test mode: Focus close
Tracking open

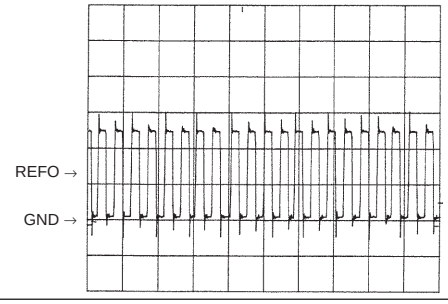


⑧ CH1: TEY 0.5V/div. 0.2s/div.
⑥ CH2: FEY 0.5V/div.
Normal mode: AGC after focus close



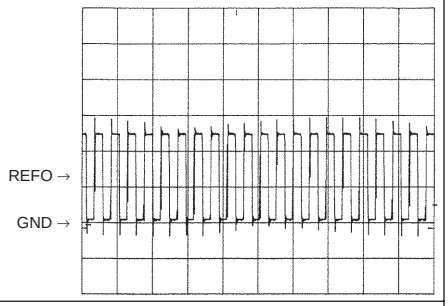
⑭ PLCK 2V/div. 0.5µs/div.

Play



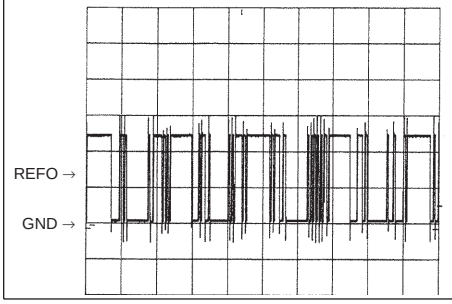
⑮ SCKO 2V/div. 1µs/div.

Play

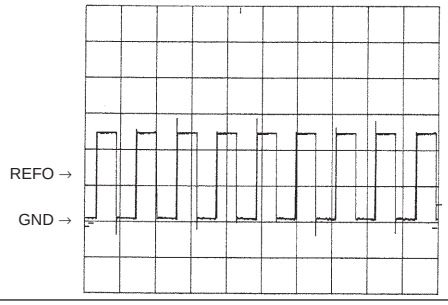


⑯ Dout 2V/div. 10µs/div.

Play

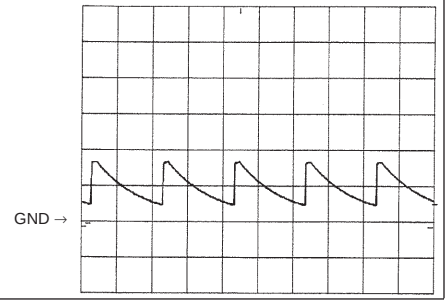


⑰ LRCK 2V/div. 20µs/div.

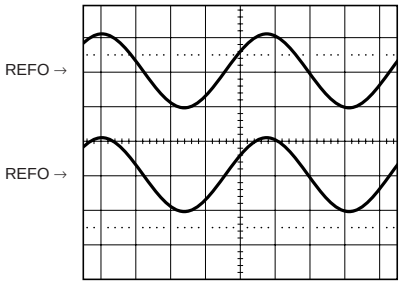


⑱ VD 5V/div. 50ms/div.

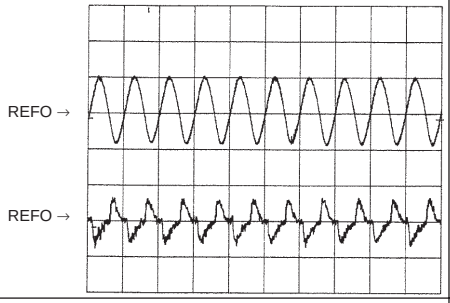
Normal mode: No disc



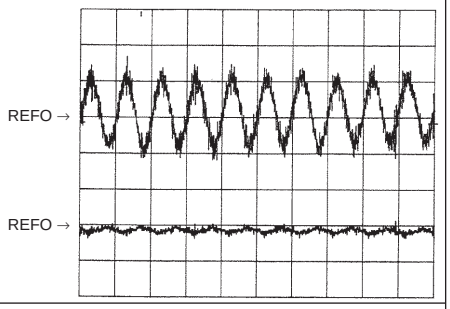
⑲ CH1: R OUT 1V/div.
⑳ CH2: L OUT 1V/div.
0.2ms/div.
Normal mode: Play (1kHz 0dB)



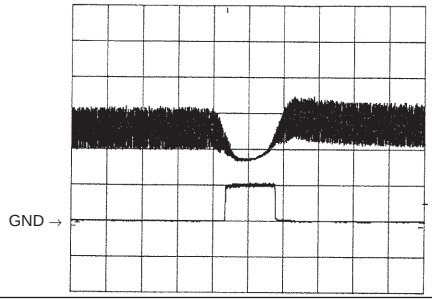
⑥ CH1: FEY 0.2V/div.
③ CH2: FIN 0.5V/div.
1ms/div.
Normal mode: During AGC



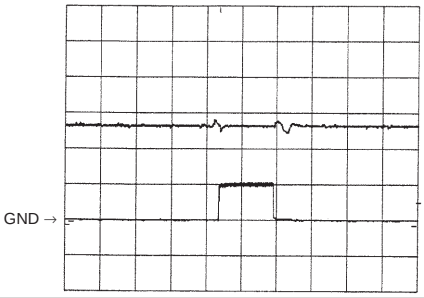
⑧ CH1: TEY 0.2V/div.
⑨ CH2: TIN 0.5V/div.
1ms/div.
Normal mode: During AGC



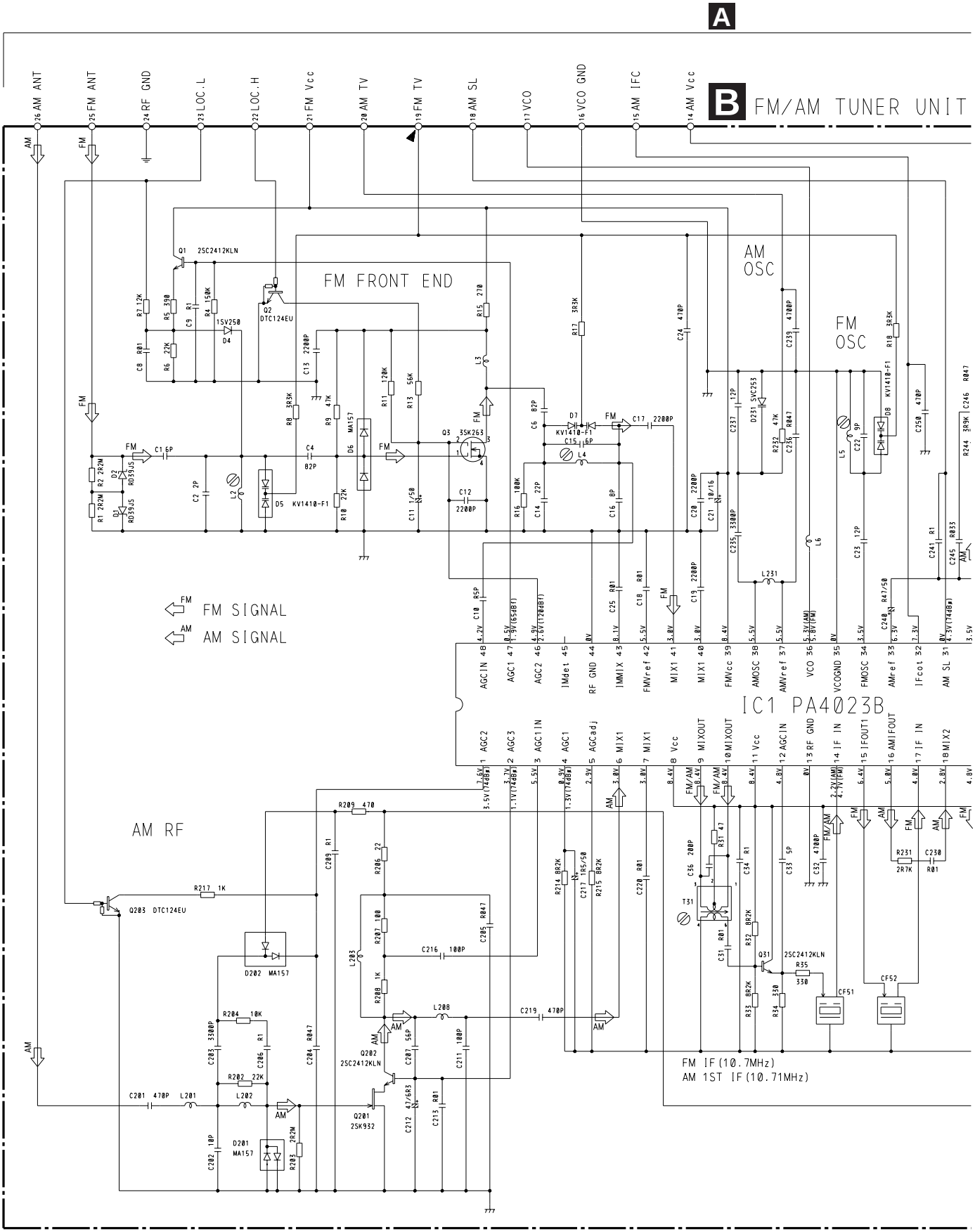
① CH1: RFO 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm



③ CH1: FIN 1V/div.
㉑ CH2: HOLD 5V/div.
0.5ms/div.
Normal mode: The defect part passes 800µm



3.3 FM/AM TUNER UNIT



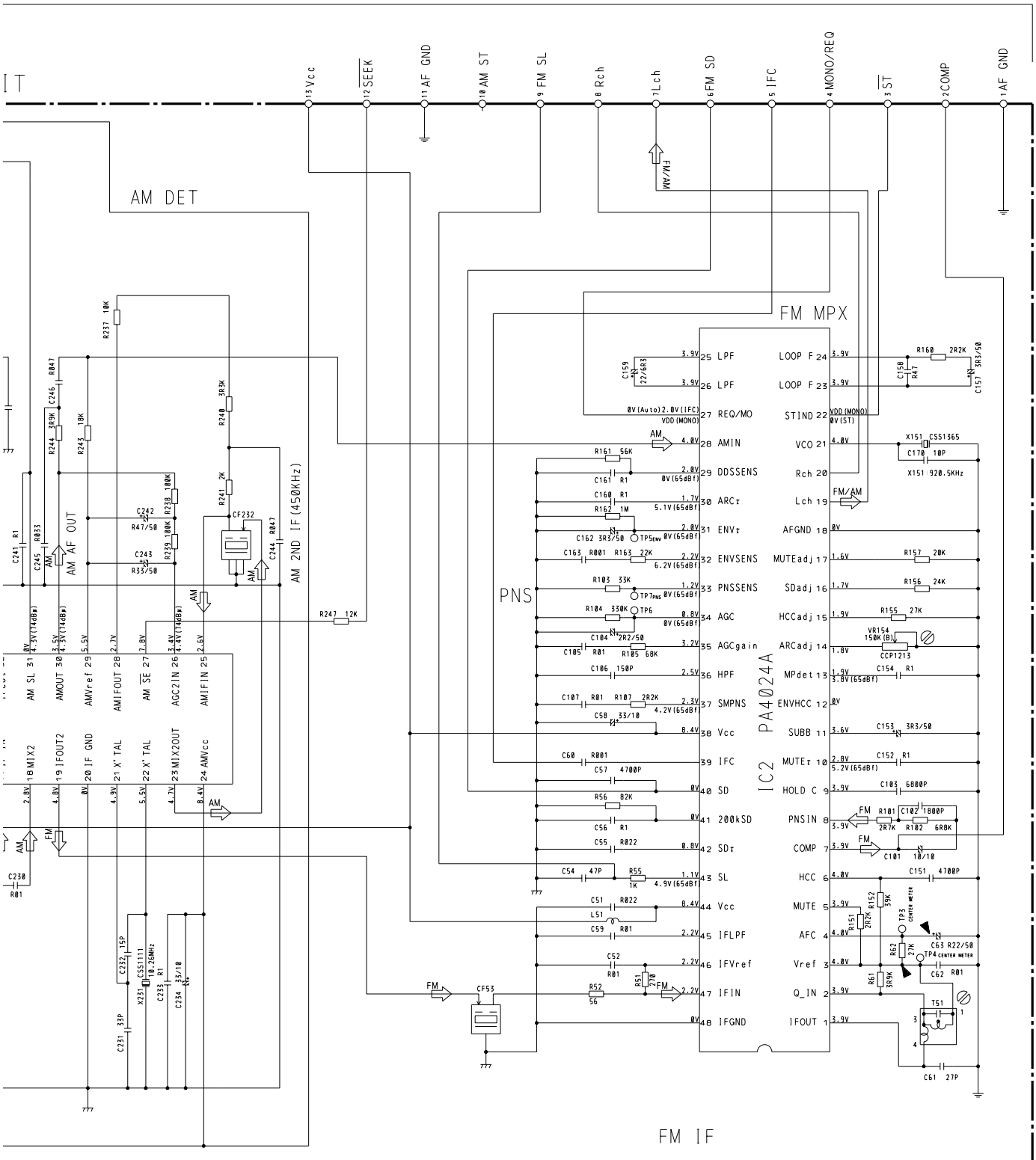
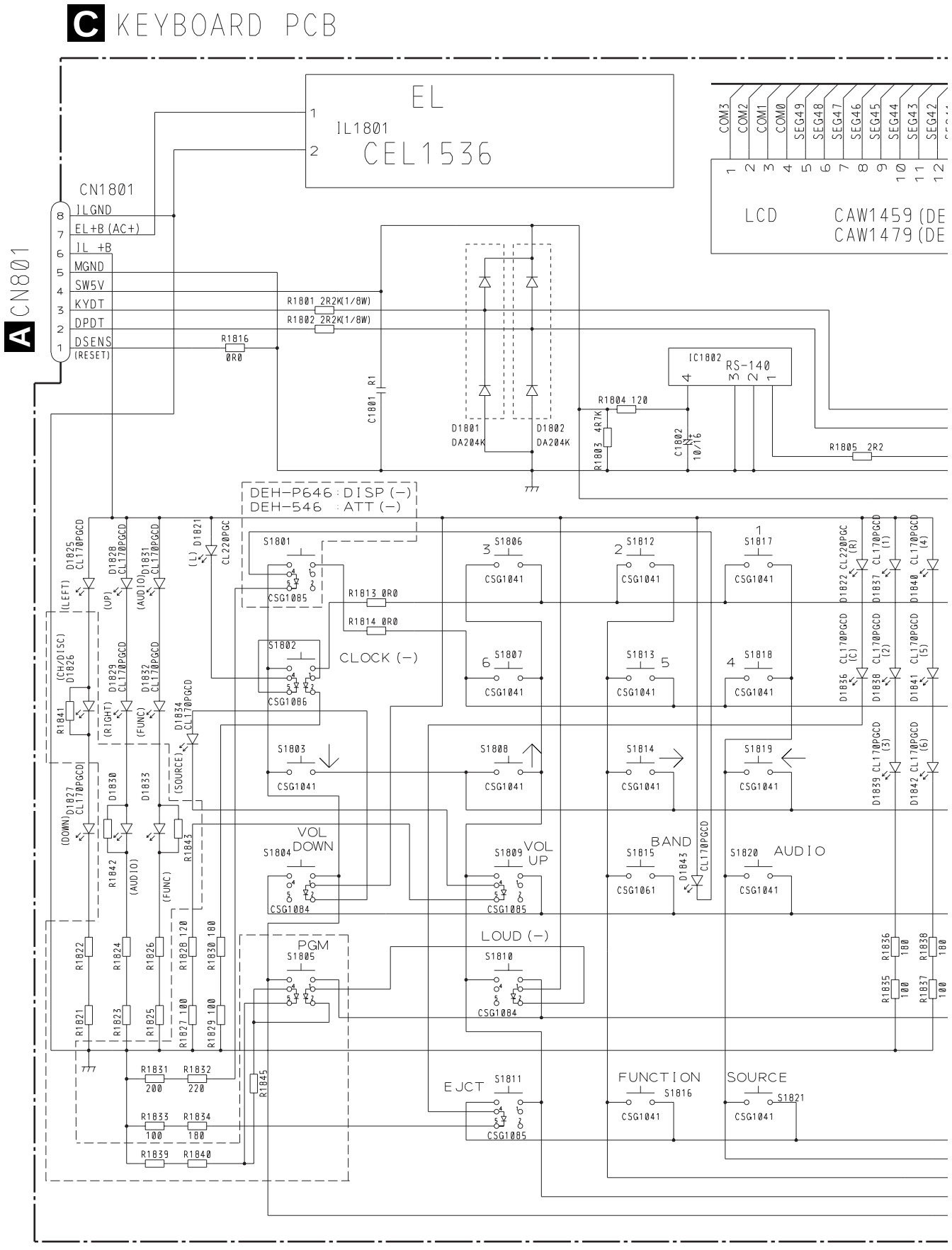
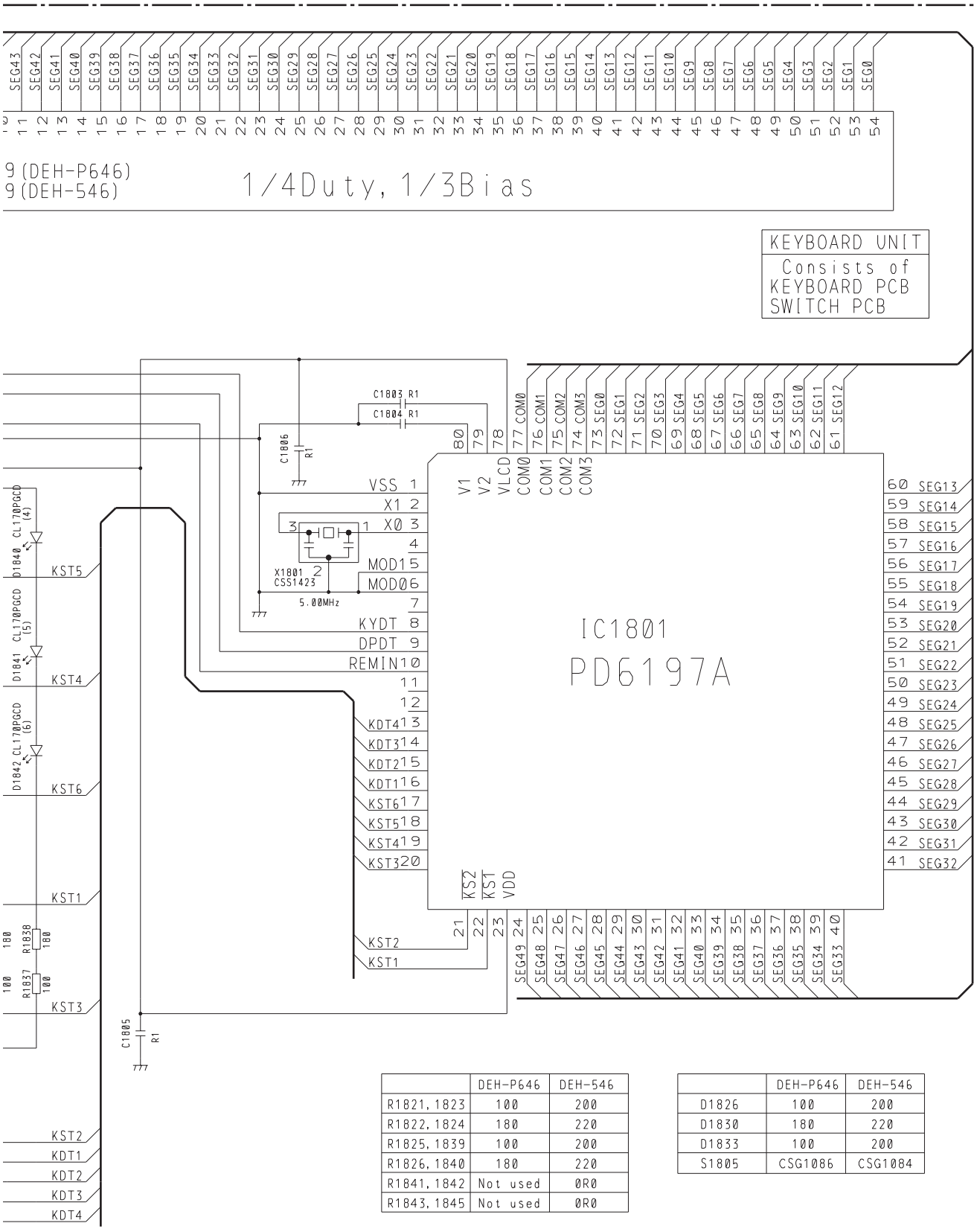

AM DET
FM MPX
PNS
IC2 PA4024A
FM IF
AM AF OUT
AM 2ND IF (450KHz)
FM/AM
15 Vcc
12 SEEK
11 AF GND
10 AM ST
9 FM SL
8 Rch
7 Lch
6 FM SD
5 IFC
4 MONO/REQ
3 ST
2 COMP
1 AF GND
25 LPF
26 LPF
27 REQ/MO
28 AMIN
29 DDSSENS
30 ARCr
31 ENVr
32 ENVSENS
33 PNSSENS
34 AGC
35 AGCgain
36 HPF
37 SMPNS
38 Vcc
39 IFC
40 SD
41 200kSD
42 SDr
43 SL
44 Vcc
45 IFLPF
46 IFVref
47 IFIN
48 IFGND
24 LOOP F
23 LOOP F
22 STIND
21 VCO
20 Rch
19 Lch
18 AFGND
17 MUTEadj
16 SDadj
15 HCCadj
14 ARCadj
13 MPdet
12 ENVHCC
11 SUBB
10 MUTEr
9 HOLD C
8 PNSIN
7 COMP
6 HCC
5 MUTE
4 AFC
3 Vref
2 Q_IN
1 IFOUT
31 AM SL
30 AMOUT
29 AMVref
28 AMIFOUT
27 AM SE
26 AGC2IN
25 AMIFIN
18 MIX2
19 IFOUT2
20 IF GND
21 X'TAL
22 X'TAL
23 MIX2OUT
24 AMVcc
X151 CSS1365
X151 920.5KHz
X231 CSS1111
CF232
CF53
TP1 CENTER METER
TP4 CENTER METER
TP5ENV
TP6
TP7PNS
T51
VR154 150K(B)
CCP1213

Fig. 11

3.4 KEYBOARD PCB





	DEH-P646	DEH-546
R1821, 1823	100	200
R1822, 1824	180	220
R1825, 1839	100	200
R1826, 1840	180	220
R1841, 1842	Not used	0R0
R1843, 1845	Not used	0R0

	DEH-P646	DEH-546
D1826	100	200
D1830	180	220
D1833	100	200
S1805	CSG1086	CSG1084

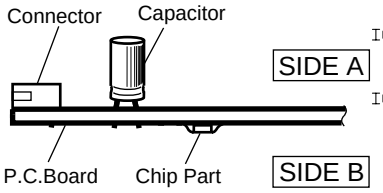
Fig. 12

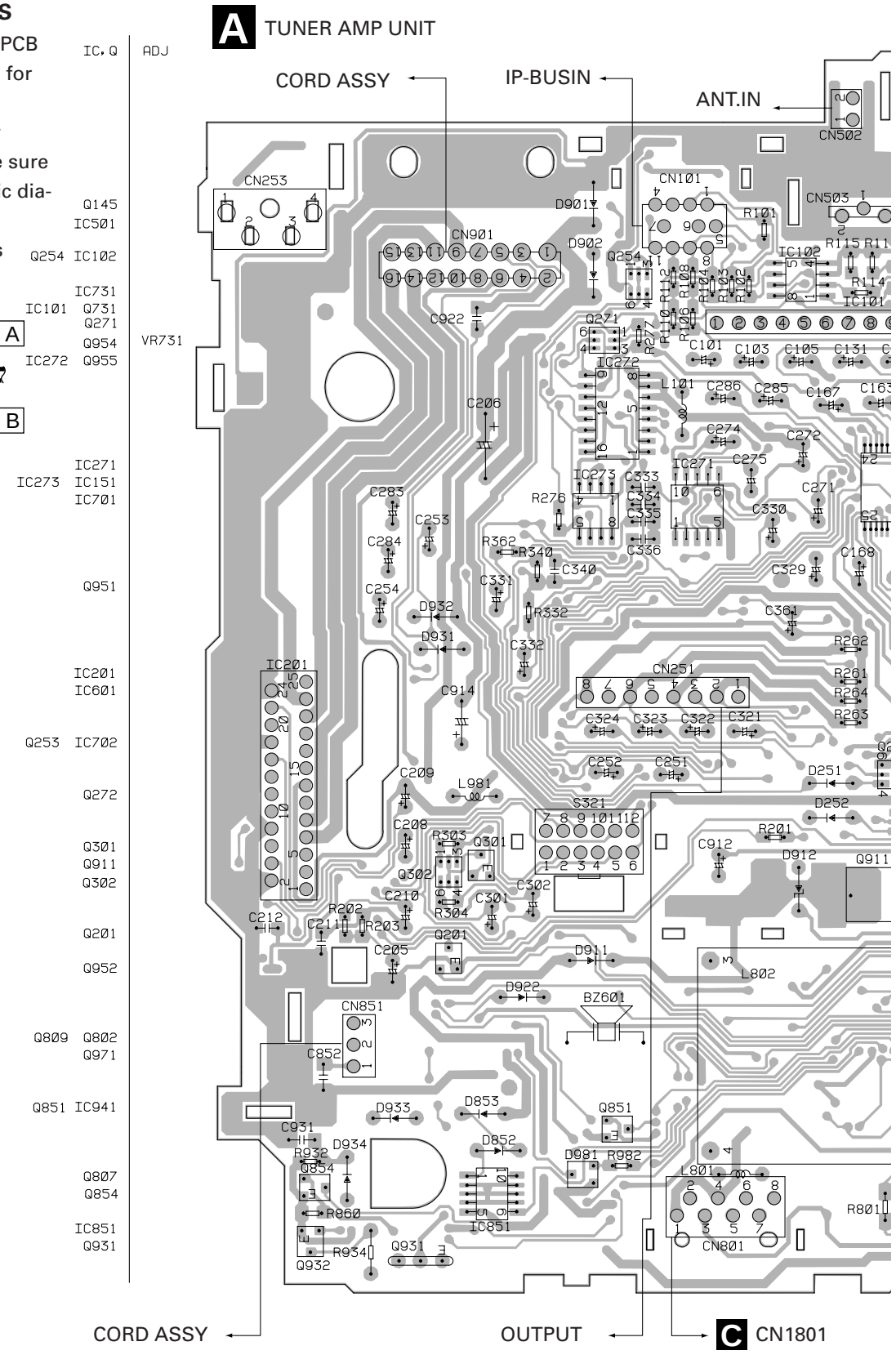
4. PCB CONNECTION DIAGRAM

4.1 TUNER AMP UNIT

NOTE FOR PCB DIAGRAMS

1. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams





SIDE A

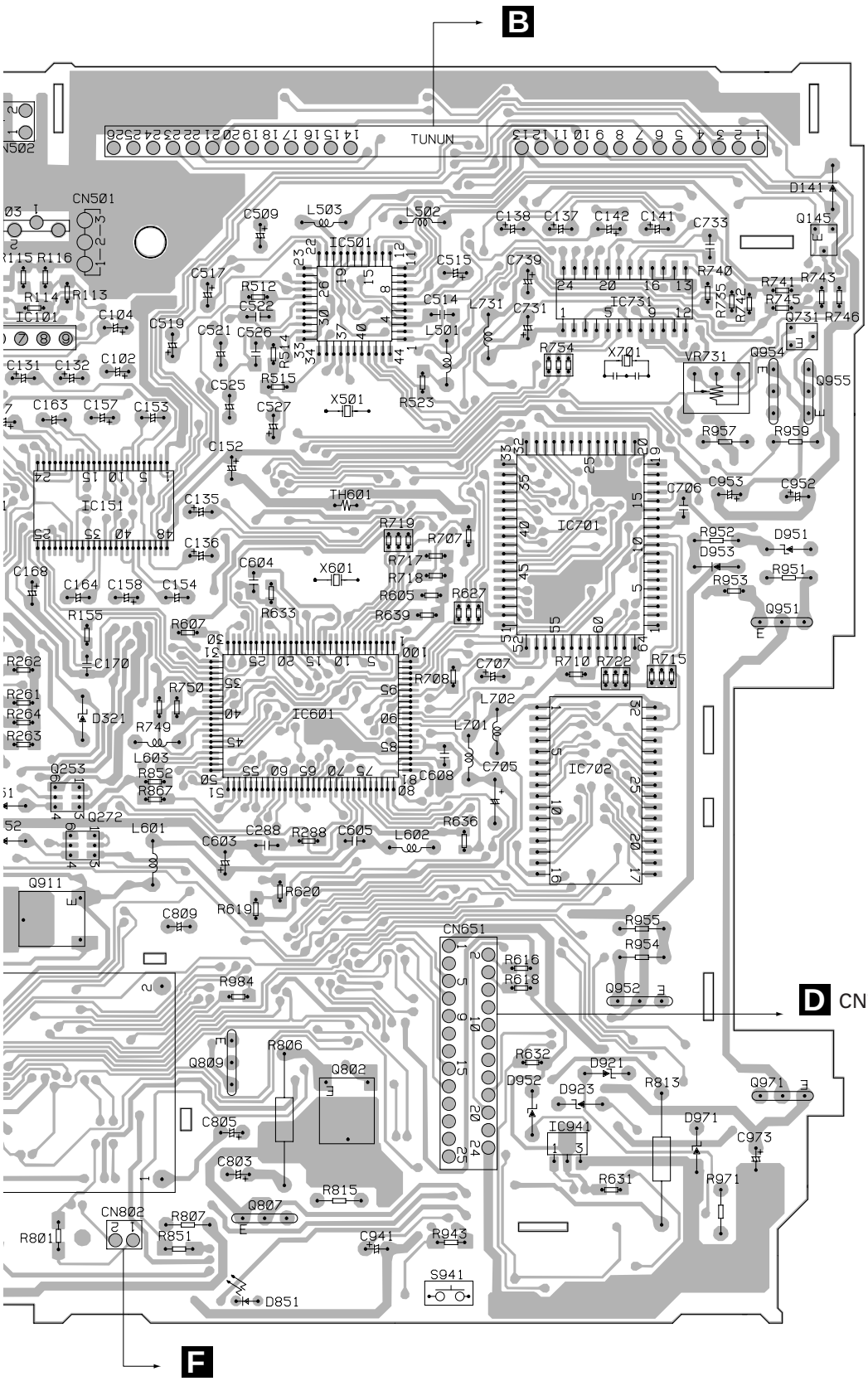
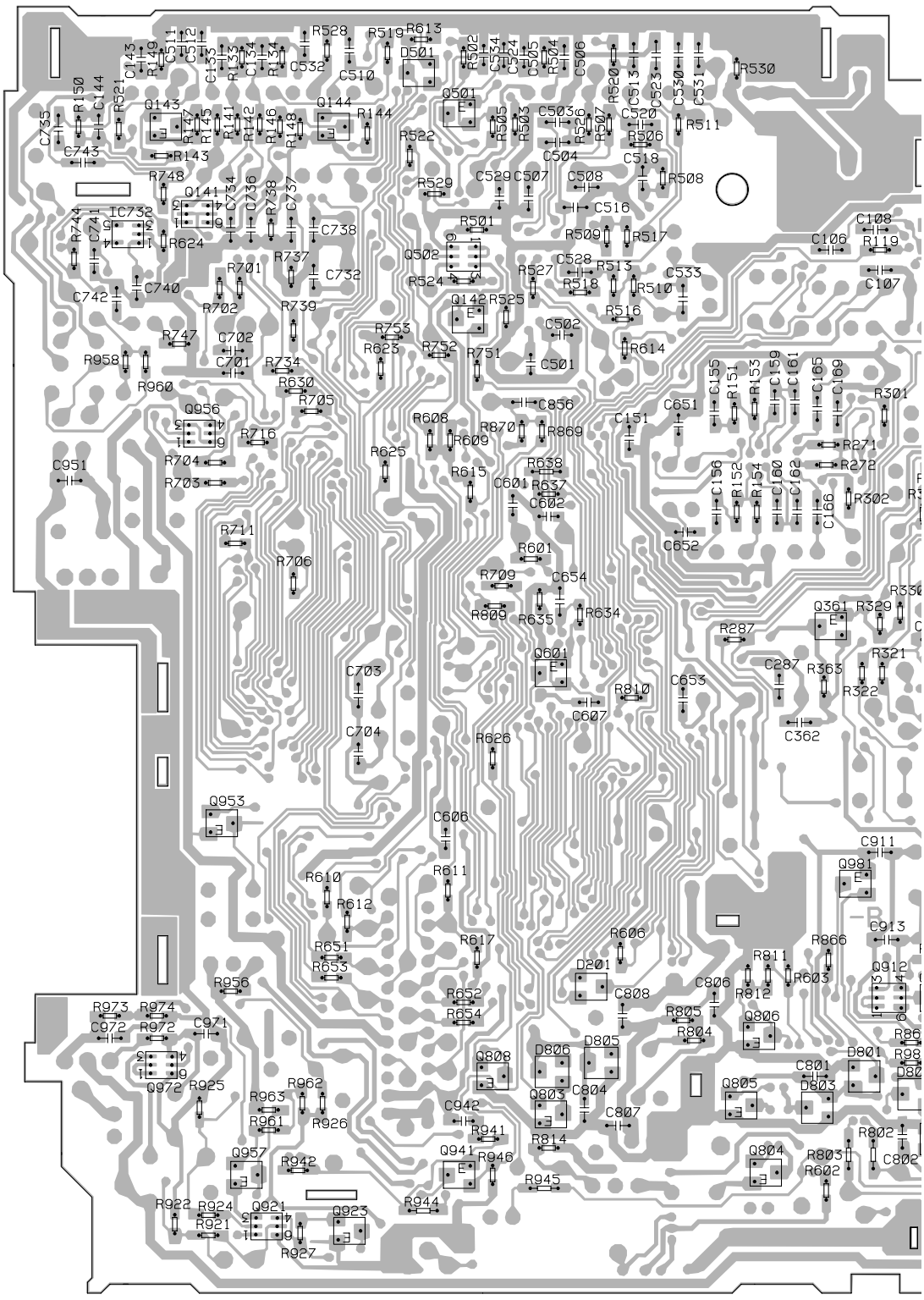
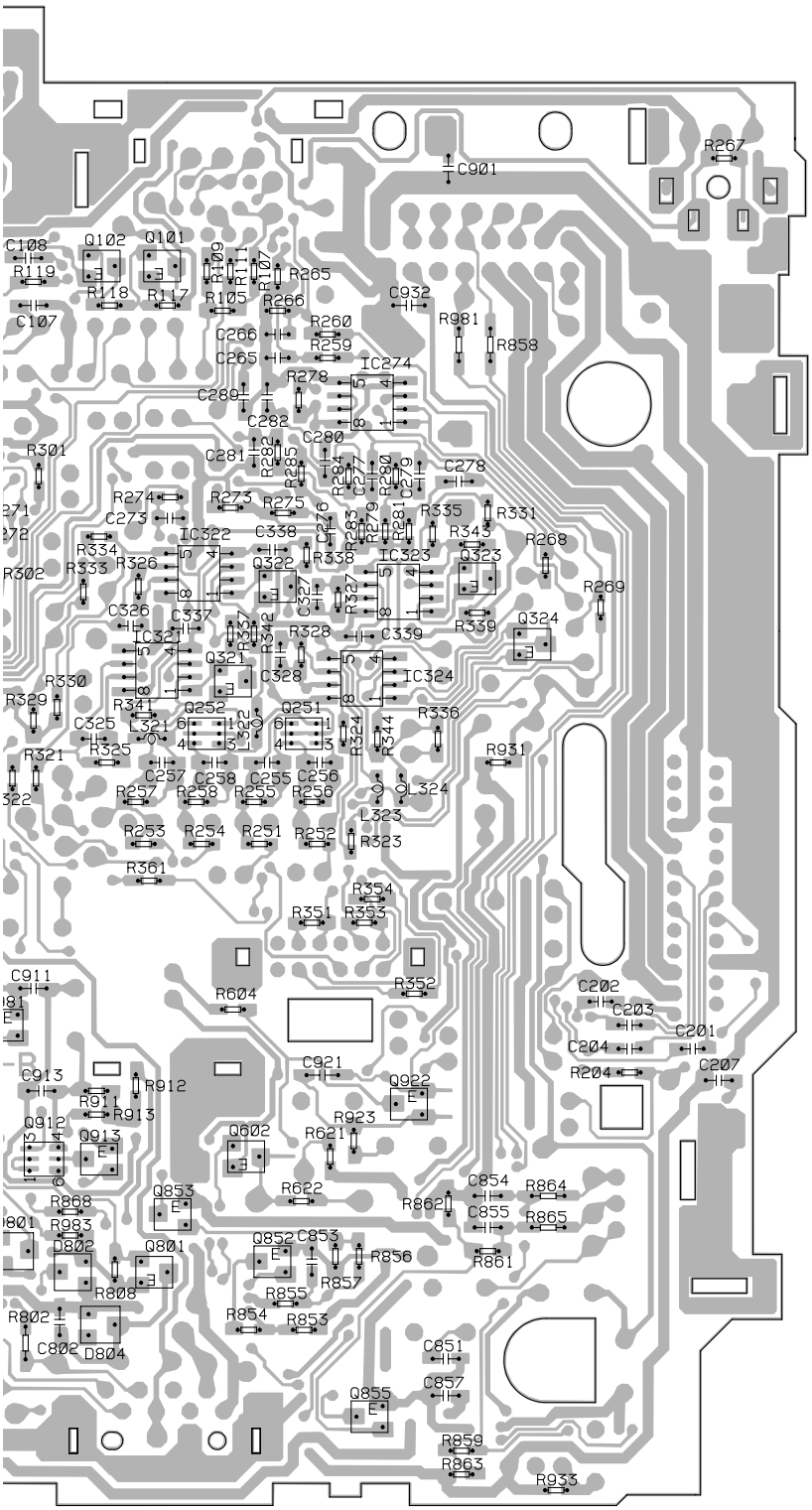

B
TUNUN
CN501
IC501
IC731
IC151
IC101
IC601
IC701
IC702
IC941
TH601
X501
X601
X701
VR731
CN651
CN802
S941
D851
D141
Q145
Q731
Q954
Q955
Q951
Q952
Q253
Q272
Q911
Q809
Q802
Q807
Q971
D321
D921
D923
D951
D952
D953
D971
L501
L502
L503
L601
L602
L603
L701
L702
D CN701
F

Fig. 13

A TUNER AMP UNIT



SIDE B



IC, Q

Q144 Q501
Q143

Q141

IC732 Q102
Q101
Q502

Q142

IC274

Q956

IC322
Q322 IC323
Q323

Q324
IC321
Q321 IC324

Q361 Q252
Q251
Q601

Q953

Q981

Q922

Q912 Q913
Q602
Q806
Q853

Q808 Q801 Q852
Q972 Q805
Q803

Q957 Q941
Q804
Q855
Q921 Q923

Q932

Fig. 14

4.2 FM/AM TUNER UNIT

SIDE A

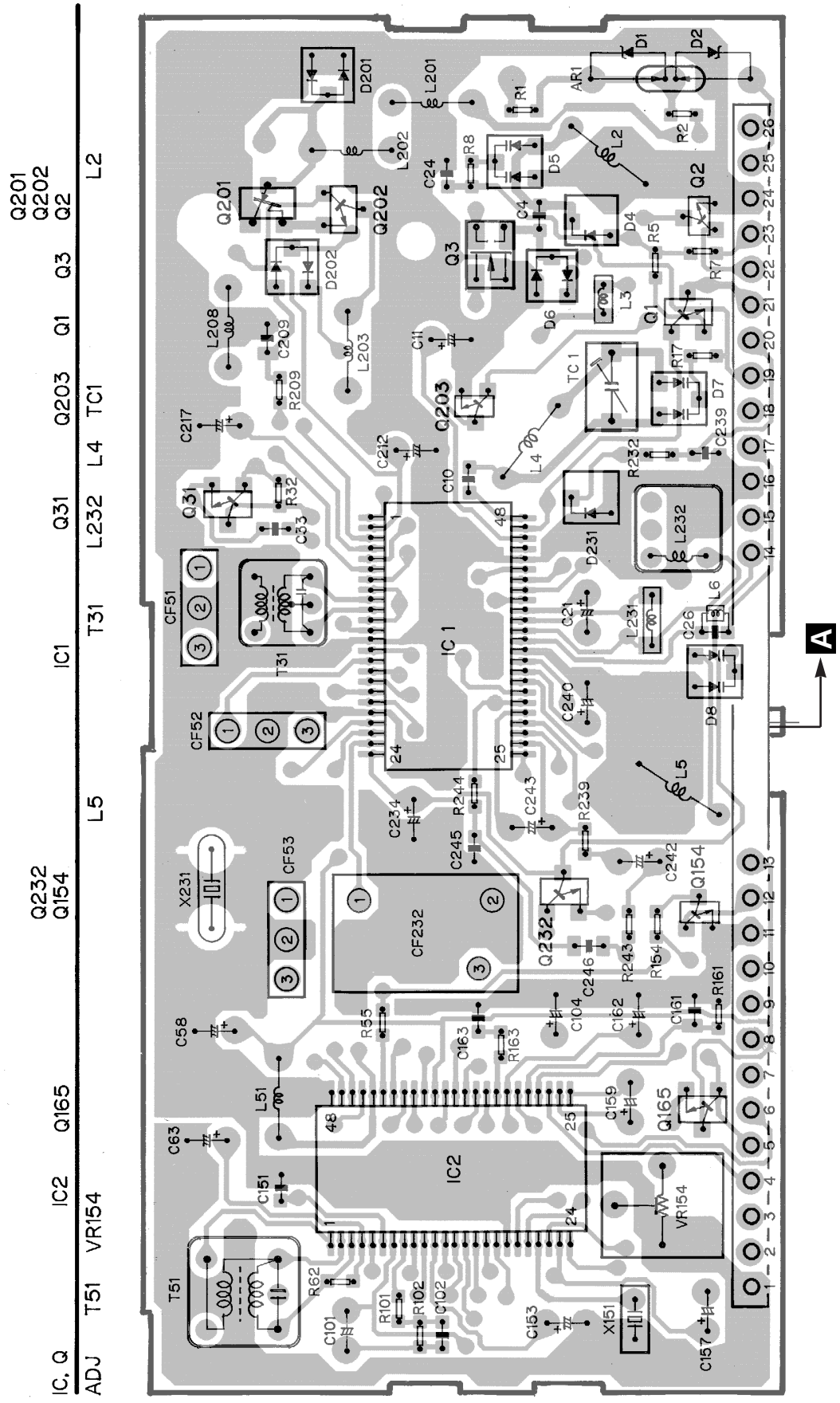


Fig. 15

SIDE B

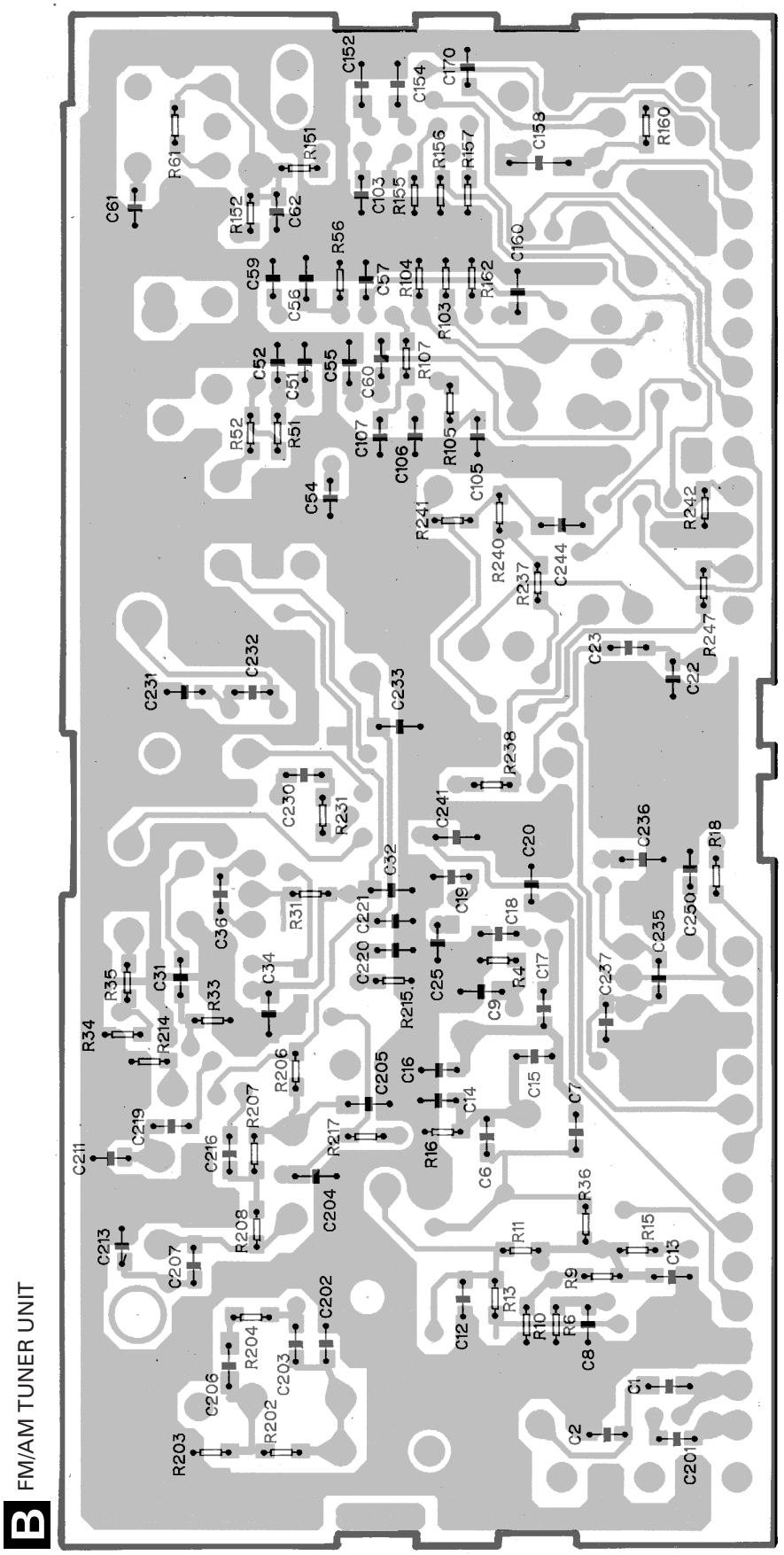


Fig. 16

4.3 CD MECHANISM MODULE

SIDE A

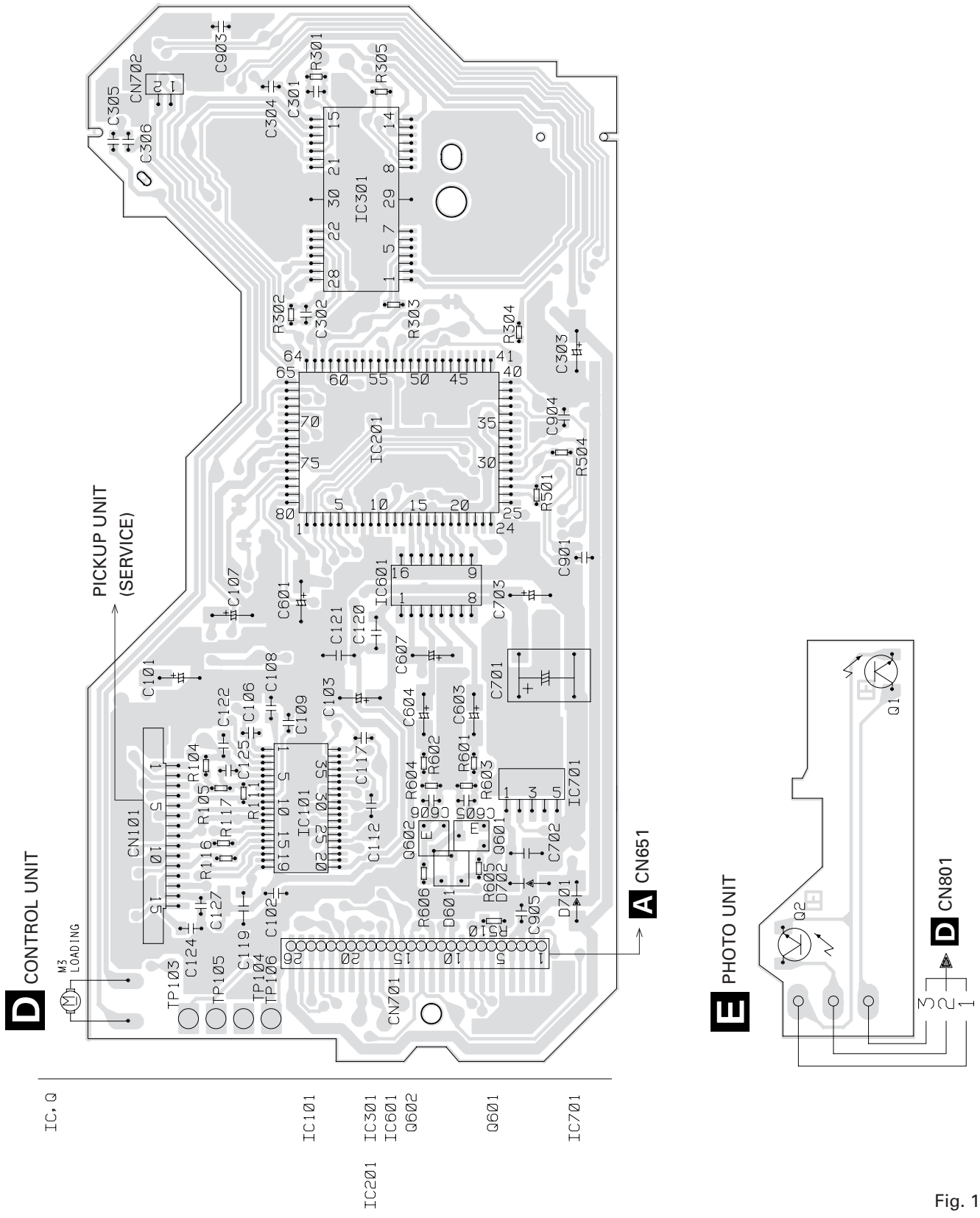


Fig. 17

SIDE B

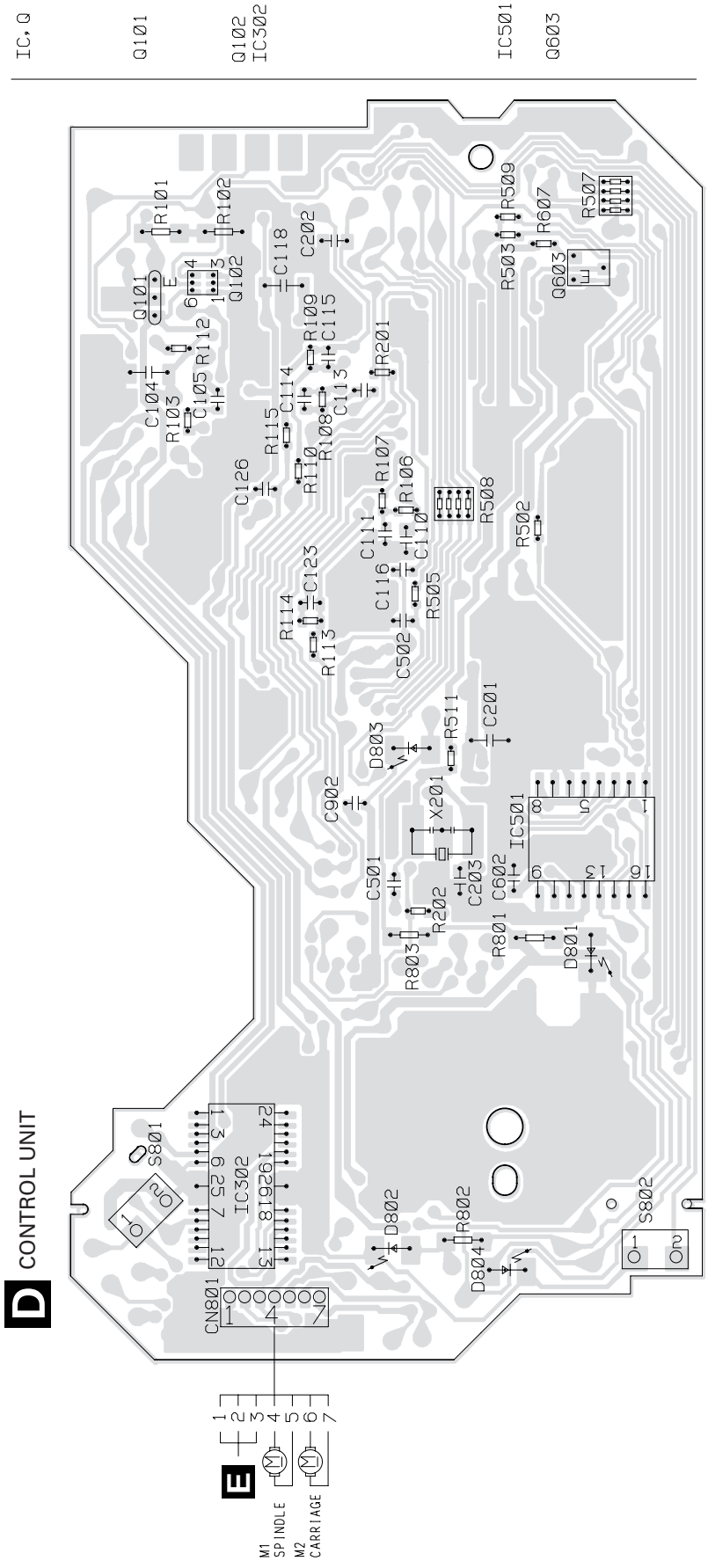

IC, Q
Q101
Q102
IC302
IC501
Q603
D CONTROL UNIT
E
M1
SPINDLE
M2
CARRIAGE
CN801
S801
S802
IC302
IC501
Q603
Q101
Q102
R101
R102
R103
R112
R115
R110
R108
R109
R107
R106
R508
R509
R503
R607
R507
R502
R505
R114
R113
R511
R202
R803
R801
R802
C104
C105
C118
C202
C114
C113
C115
C126
C123
C111
C110
C116
C502
C902
C501
C203
C602
C201
X201
D803
D802
D804
D801
1
2
3
4
5
6
7

Fig. 18

4.4 KEYBOARD PCB,SWITCH PCB

SIDE A

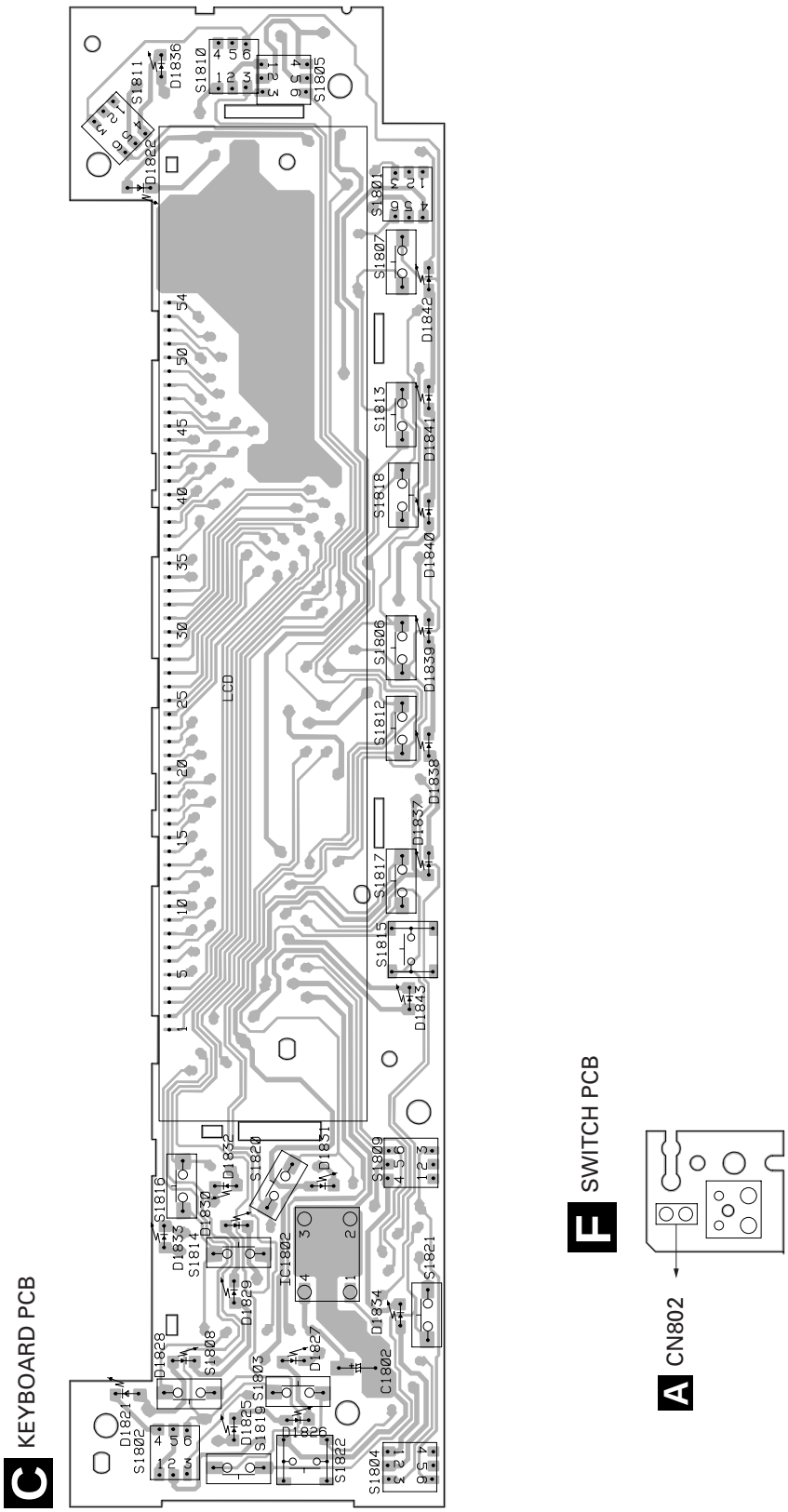


Fig. 19

SIDE B

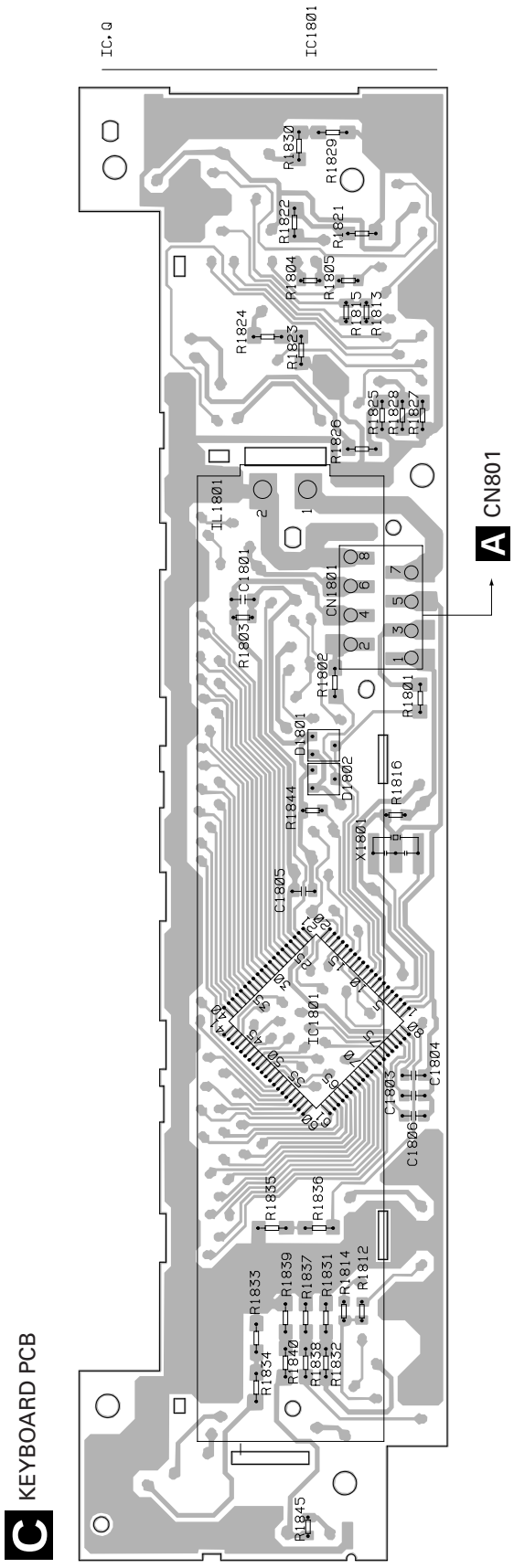

IC,Q
IC1801
R1830
R1829
R1822
R1821
R1804
R1805
R1815
R1813
R1824
R1823
R1825
R1828
R1827
R1826
L1801
C1801
R1803
CN1801
R1802
R1801
D1801
D1802
R1816
R1844
X1801
C1805
IC1801
C1803
C1804
C1806
R1835
R1836
R1833
R1839
R1837
R1831
R1814
R1812
R1834
R1840
R1838
R1832
R1845
A CN801
C KEYBOARD PCB
F SWITCH PCB

Fig. 20

5. ELECTRICAL PARTS LIST

NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○J,RS1/○○S○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

B Unit Number : CWE1485
Unit Name : FM/AM Tuner Unit

MISCELLANEOUS

=====Circuit Symbol and No.		===Part Name	Part No.
IC	1	IC	PA4023B
IC	2	IC	PA4024A
Q	1	Transistor	2SC2412KLN
Q	2	Transistor	DTC124EU
Q	3	FET	3SK263
Q	31	Transistor	2SC2412KLN
Q	201	FET	2SK932
Q	202	Transistor	2SC2412KLN
Q	203	Transistor	DTC124EU
D	1	Diode	RD39JS
D	2	Diode	RD39JS
D	4	Diode	1SV250
D	5	Diode	KV1410-F1
D	6	Diode	MA157
D	7	Diode	KV1410-F1
D	8	Diode	KV1410-F1
D	201	Diode	MA157
D	202	Diode	MA157
D	231	Diode	SVC253
L	2	Coil	CTC1108
L	3	Inductor	LCTB2R2K2125
L	4	Coil	CTC1108
L	5	Coil	CTC1107
L	6	Inductor	LCTBR15K1608
L	51	Ferri-Inductor	LAU150K
L	201	Ferri-Inductor	LAU4R7K
L	202	Ferri-Inductor	LAU330K
L	203	Inductor	CTF1287
L	208	Inductor	LAU121K
L	231	Inductor	LCTA3R3J3225
T	31	Coil	CTE1117
T	51	Coil	CTC1136
CF	51	Ceramic Filter	CTF1290
CF	52	Ceramic Filter	CTF1290
CF	53	Ceramic Filter	CTF1290
CF	232	Ceramic Filter	CTF1348
X	151	Resonator 920.5kHz	CSS1365
X	231	Crystal Resonator 10.26MHz	CSS1111
VR	154	Semi-fixed 150kΩ(B)	CCP1213

RESISTORS

=====Circuit Symbol and No.		===Part Name	Part No.
R	1		RS1/16S225J
R	2		RS1/16S225J
R	4		RS1/16S154J
R	5		RS1/16S391J
R	6		RS1/16S223J
R	7		RS1/16S123J
R	8		RS1/16S332J
R	9		RS1/16S473J
R	10		RS1/16S223J
R	11		RS1/16S124J
R	13		RS1/16S563J
R	15		RS1/16S271J
R	16		RS1/16S104J
R	17		RS1/16S332J
R	18		RS1/16S332J
R	31		RS1/16S470J
R	32		RS1/16S822J
R	33		RS1/16S822J
R	34		RS1/16S331J
R	35		RS1/16S331J
R	51		RS1/16S271J
R	52		RS1/16S560J
R	55		RS1/16S102J
R	56		RS1/16S823J
R	61		RS1/16S392J
R	62		RS1/16S273J
R	101		RS1/16S272J
R	102		RS1/16S682J
R	103		RS1/16S333J
R	104		RS1/16S334J
R	105		RS1/16S683J
R	107		RS1/16S222J
R	151		RS1/16S222J
R	152		RS1/16S393J
R	155		RS1/16S273J
R	156		RS1/16S243J
R	157		RS1/16S203J
R	160		RS1/16S222J
R	161		RS1/16S563J
R	162		RS1/16S105J
R	163		RS1/16S223J
R	202		RS1/16S223J
R	203		RS1/16S225J
R	204		RS1/16S103J
R	206		RS1/16S220J
R	207		RS1/16S101J
R	208		RS1/16S102J
R	209		RS1/16S471J
R	214		RS1/16S822J
R	215		RS1/16S822J
R	217		RS1/16S102J
R	231		RS1/16S272J
R	232		RS1/16S473J
R	237		RS1/16S103J
R	238		RS1/16S104J
R	239		RS1/16S104J
R	240		RS1/16S332J
R	241		RS1/16S202J
R	243		RS1/16S183J
R	244		RS1/16S392J
R	247		RS1/16S123J

=====Circuit Symbol and No.		===Part Name	Part No.
CAPACITORS			
C	1		CCSQCH6R0D50
C	2		CCSRCK2R0C50
C	4		CCSRCH820J50
C	6		CCSRCH820J50
C	8		CKSRYB103K25
C	9		CKSQYB104K16
C	10		CCSRCKR50C50
C	11		CEJA1R0M50
C	12		CKSRYB222K50
C	13		CKSRYB222K50
C	14		CCSRCH220J50
C	15		CCSRCH6R0D50
C	16		CCSRCH8R0D50
C	17		CKSRYB222K50
C	18		CKSRYB103K25
C	19		CKSRYB222K50
C	20		CKSRYB222K50
C	21		CEJA100M16
C	22		CCSRTH9R0D50
C	23		CCSRTH120J50
C	24		CCSRCH471J50
C	25		CKSRYB103K25
C	31		CKSRYB103K25
C	32		CKSQYB472K50
C	33		CCSRCH5R0C50
C	34		CKSQYB104K16
C	36		CCSRRH201J50
C	51		CKSRYB223K25
C	52		CKSRYB103K25
C	54		CCSRCH470J50
C	55		CKSQYB223K25
C	56		CKSQYB104K16
C	57		CKSRYB472K50
C	58		CEJA330M10
C	59		CKSRYB103K25
C	60		CKSRYB102K50
C	61		CCSRCH270J50
C	62		CKSRYB103K25
C	63		CEJAR22M50
C	101		CEJANP100M10
C	102		CKSRYB182K50
C	103		CKSRYB682K25
C	104		CEJA2R2M50
C	105		CKSRYB103K25
C	106		CCSRCH151J50
C	107		CKSRYB103K25
C	151		CKSRYB472K50
C	152		CKSQYB104K16
C	153		CEJA3R3M50
C	154		CKSQYB104K16
C	157		CEJA3R3M50
C	158		CKSYB474K16
C	159		CEJA220M6R3
C	160		CKSQYB104K16
C	161		CKSQYB104K16
C	162		CEJA3R3M50
C	163		CKSRYB102K50
C	170		CCSRCH100D50
C	201		CCSRCH471J50
C	202		CCSRCH100D50
C	203		CKSRYB332K50
C	204		CKSQYB473K16
C	205		CKSQYB473K16
C	206		CKSQYB104K16
C	207		CCSRCH560J50
C	209		CKSQYB104K16
C	211		CCSRCH101J50
C	212		CEJA470M6R3
C	213		CKSRYB103K25
C	216		CCSRCH101J50
C	217		CEJA1R5M50
C	219		CCSRCH471J50
C	220		CKSRYB103K25
C	230		CKSRYB103K25
C	231		CCSRCH330J50
C	232		CCSRCH150J50
C	233		CKSQYB104K16
C	234		CEJA330M10
C	235		CKSRYB332K50
C	236		CKSQYB473K16
C	237		CCSRCH120J50
C	239		CKSRYB472K50
C	240		CEJAR47M50
C	241		CKSQYB104K16
C	242		CEJAR47M50
C	243		CEJAR33M50
C	244		CKSQYB473K16
C	245		CKSRYB333K16
C	246		CKSQYB473K16
C	250		CCSRCH471J50

A Unit Number : CWM5622
Unit Name : Tuner Amp Unit(DEH-P646/ES)

MISCELLANEOUS

IC	101	IC	TA2050S
IC	102	IC	CA0008AM
IC	151	IC	SN761027DL
IC	201	IC	TDA7386
IC	271	IC	M5282FP
IC	272	IC	MC14052BF
IC	273	IC	NJM4558MD
IC	274	IC	NJM4558MD
IC	501	IC	PM2006A
IC	601	IC	PD4957A
IC	941	IC	S-80730ANDT
Q	101	Chip Transistor	2SA1162
Q	102	Transistor	DTC124EK
Q	201	Transistor	DTC144EK
Q	252	Transistor	IMH3A
Q	253	Transistor	IMD2A
Q	254	Transistor	IMH3A
Q	271	Transistor	IMH1A
Q	272	Transistor	IMD2A
Q	301	Transistor	DTA124EK
Q	302	Transistor	IMH3A
Q	501	Transistor	2SC2712
Q	601	Transistor	DTA114EK
Q	602	Transistor	DTC114EK
Q	801	Chip Transistor	2SA1162
Q	802	Transistor	2SD1760F5
Q	803	Transistor	DTC114EK
Q	804	Transistor	DTA143EK
Q	805	Transistor	DTC114EK
Q	806	Transistor	2SC2712
Q	807	Transistor	2SB1238
Q	808	Transistor	DTC123EK
Q	809	Transistor	2SD1864
Q	851	Chip Transistor	2SA1162
Q	852	Transistor	DTC124EK

Circuit Symbol and No.		Part Name	Part No.
Q	853	Transistor	2SC2412K
Q	854	Transistor	2SC2412K
Q	855	Transistor	2SC2412K
Q	911	Transistor	2SD1760F5
Q	912	Transistor	IMD2A
Q	913	Transistor	DTA114EK
Q	921	Transistor	IMX1
Q	922	Transistor	DTC114EK
Q	923	Transistor	2SC2712
Q	931	Transistor	2SB1243
Q	932	Transistor	DTC114EK
Q	941	Transistor	DTA144TK
Q	951	Transistor	2SD2396
Q	952	Transistor	2SB1243
Q	953	Transistor	DTC124EK
Q	954	Transistor	2SA1674
Q	955	Transistor	2SA1674
Q	956	Transistor	IMH1A
Q	957	Transistor	2SC2712
Q	971	Transistor	2SD2396
Q	972	Transistor	IMD2A
D	201	Diode	DAN202K
D	251	Diode	1SS133
D	252	Diode	1SS133
D	321	Diode	HZS7L(C2)
D	501	Diode	MA152WK
D	801	Diode	DA204K
D	802	Diode	DA204K
D	803	Diode	DA204K
D	804	Diode	MA3062(M)
D	805	Diode	MA3075(L)
D	806	Diode	MA3039(H)
D	851	LED	BR4361F
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	ERA15-02VH
D	912	Diode	HZS6L(B1)
D	921	Diode	HZS7L(C3)
D	922	Diode	ERA15-02VH
D	923	Diode	HZS7L(A1)
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH
D	933	Diode	ERA15-02VH
D	934	Diode	ERA15-02VH
D	951	Diode	HZS9L(B3)
D	952	Diode	HZS9L(A2)
D	953	Diode	1SS133
D	971	Diode	HZS9L(B1)
L	101	Inductor	LAU3R3J
L	501	Ferri-Inductor	LAU2R2K
L	502	Ferri-Inductor	LAU2R2K
L	503	Ferri-Inductor	LAU2R2K
L	601	Inductor	LAU100K
L	602	Ferri-Inductor	LAU2R2K
L	603	Ferri-Inductor	LAU2R2K
L	801	Ferri-Inductor	LAU2R2K
L	802	Transformer	MTX9006
TH	601	Thermistor	CCX1037
X	501	Crystal Resonator 7.200MHz	CSS1379
X	601	Resonator 12.58291MHz	CSS1402
S	941	Switch	CSG1046
		FM/AM Tuner Unit	CWE1485
BZ	601	Buzzer	CPV1011

Circuit Symbol and No.		Part Name	Part No.
RESISTORS			
R	101		RS1/10S620J
R	102		RS1/10S101J
R	103		RS1/10S101J
R	104		RS1/10S222J
R	105		RS1/10S122J
R	106		RS1/10S122J
R	107		RS1/10S181J
R	108		RS1/10S181J
R	109		RS1/10S153J
R	110		RS1/10S153J
R	111		RS1/10S222J
R	112		RS1/10S222J
R	113		RS1/10S102J
R	114		RS1/10S102J
R	115		RS1/10S473J
R	116		RS1/10S473J
R	117		RS1/10S332J
R	118		RS1/10S682J
R	119		RS1/10S103J
R	133		RS1/10S162J
R	134		RS1/10S162J
R	141		RS1/10S0R0J
R	142		RS1/10S0R0J
R	151		RS1/10S272J
R	152		RS1/10S272J
R	153		RS1/10S151J
R	154		RS1/10S151J
R	155		RS1/10S102J
R	201		RS1/10S103J
R	202		RS1/10S331J
R	203		RS1/10S103J
R	204		RS1/10S103J
R	253		RS1/10S681J
R	254		RS1/10S681J
R	257		RS1/10S223J
R	258		RS1/10S223J
R	259		RS1/10S821J
R	260		RS1/10S821J
R	263		RS1/10S0R0J
R	264		RS1/10S0R0J
R	265		RS1/10S223J
R	266		RS1/10S223J
R	271		RS1/10S183J
R	272		RS1/10S183J
R	273		RS1/10S103J
R	274		RS1/10S243J
R	275		RS1/10S683J
R	276		RS1/10S105J
R	277		RS1/10S103J
R	278		RS1/10S103J
R	279		RS1/10S104J
R	280		RS1/10S104J
R	281		RS1/10S104J
R	282		RS1/10S104J
R	283		RS1/10S104J
R	284		RS1/10S104J
R	285		RS1/10S105J
R	287		RS1/10S473J
R	288		RS1/10S473J
R	301		RS1/10S151J
R	302		RS1/10S151J
R	303		RS1/10S104J
R	304		RS1/10S104J
R	351		RS1/10S0R0J
R	352		RS1/10S0R0J

Circuit Symbol and No.	Part Name	Part No.
R 353		RS1/10S0R0J
R 354		RS1/10S0R0J
R 363		RS1/10S330J
R 502		RS1/10S222J
R 503		RS1/10S222J
R 504		RS1/10S102J
R 505		RS1/10S222J
R 506		RS1/10S152J
R 507		RS1/10S472J
R 508		RS1/10S472J
R 509		RS1/10S472J
R 510		RS1/10S182J
R 511		RS1/10S103J
R 513		RS1/10S0R0J
R 514		RS1/10S392J
R 515		RS1/10S392J
R 516		RS1/10S152J
R 517		RS1/10S102J
R 518		RS1/10S102J
R 519		RS1/10S102J
R 520		RS1/10S103J
R 521		RS1/10S182J
R 522		RS1/10S562J
R 523		RS1/10S472J
R 526		RS1/10S0R0J
R 529		RS1/10S0R0J
R 601		RS1/10S102J
R 602		RS1/10S473J
R 604		RS1/10S473J
R 605		RS1/10S473J
R 606		RS1/10S473J
R 607		RS1/10S473J
R 608		RS1/10S473J
R 609		RS1/10S473J
R 610		RS1/10S222J
R 611		RS1/10S222J
R 612		RS1/10S222J
R 613		RS1/10S393J
R 614		RS1/10S473J
R 615		RN1/10SE2002D
R 616		RS1/10S473J
R 617		RS1/10S473J
R 618		RS1/10S473J
R 619		RS1/10S473J
R 621		RS1/10S202J
R 622		RS1/10S102J
R 623		RS1/10S473J
R 624		RS1/10S473J
R 625		RS1/10S681J
R 626		RS1/10S102J
R 627		RA3C681J
R 630		RS1/10S473J
R 631		RS1/10S473J
R 632		RS1/10S393J
R 635		RS1/10S473J
R 636		RS1/10S473J
R 639		RS1/10S473J
R 651		RS1/10S681J
R 652		RS1/10S681J
R 653		RS1/10S681J
R 654		RS1/10S681J
R 753		RS1/10S473J
R 801		RS1/8S222J
R 802		RS1/8S222J
R 803		RS1/8S222J
R 804		RS1/10S132J
R 805		RS1/10S822J
R 806		RS2PMF100J
R 807		RD1/4PU471J
R 808		RS1/10S223J
R 809		RS1/10S682J
R 810		RS1/10S103J
R 811		RS1/10S224J
R 812		RS1/10S104J
R 813		RS2PMF220J
R 814		RS1/10S222J
R 815		RD1/4PU152J
R 851		RS1/8S471J
R 852		RS1/10S473J
R 853		RS1/10S223J
R 854		RS1/10S223J
R 855		RS1/10S103J
R 856		RS1/10S223J
R 857		RS1/10S272J
R 858		RS1/8S102J
R 859		RS1/10S223J
R 860		RS1/10S272J
R 861		RS1/10S223J
R 862		RS1/10S272J
R 863		RS1/10S103J
R 864		RS1/8S102J
R 865		RS1/8S102J
R 866		RS1/10S473J
R 867		RS1/10S473J
R 869		RS1/10S103J
R 870		RS1/10S102J
R 911		RS1/10S752J
R 912		RS1/10S101J
R 913		RS1/10S392J
R 921		RS1/10S103J
R 922		RS1/10S473J
R 923		RS1/10S103J
R 924		RS1/10S103J
R 925		RS1/10S473J
R 926		RS1/10S472J
R 927		RS1/10S224J
R 933		RS1/10S472J
R 934		RD1/4PU272J
R 941		RS1/10S102J
R 942		RS1/10S822J
R 943		RS1/8S471J
R 946		RS1/10S473J
R 951		RD1/4PU221J
R 952		RD1/4PU511J
R 953		RS1/10S1R0J
R 954		RD1/4PU331J
R 955		RD1/4PU331J
R 956		RS1/10S472J
R 957		RD1/4PU102J
R 958		RS1/10S472J
R 959		RD1/4PU102J
R 960		RS1/10S472J
R 961		RS1/10S103J
R 962		RS1/10S473J
R 963		RS1/10S473J
R 971		RD1/4PU221J
R 972		RS1/10S221J
R 973		RS1/10S472J
R 974		RS1/10S222J

=====Circuit Symbol and No.		===Part Name	Part No.
CAPACITORS			
C	101		CEJA1R0M50
C	102		CEJA1R0M50
C	103		CEJA1R0M50
C	104		CEJA1R0M50
C	105		CEJA100M16
C	106		CKSQYB104K25
C	107		CKSQYB473K25
C	108		CKSQYB473K25
C	131		CEJA2R2M50
C	132		CEJA2R2M50
C	133		CKSQYB473K16
C	134		CKSQYB473K16
C	135		CEJA4R7M35
C	136		CEJA4R7M35
C	137		CEJA2R2M50
C	138		CEJA2R2M50
C	151		CKSQYB473K25
C	152		CEJA470M10
C	153		CEJANP100M16
C	154		CEJANP100M16
C	155		CKSQYB822K50
C	156		CKSQYB822K50
C	157		CEJA1R0M50
C	158		CEJA1R0M50
C	159		CKSQYB183K50
C	160		CKSQYB183K50
C	161		CKSQYB102K50
C	162		CKSQYB102K50
C	163		CEJANP2R2M35
C	164		CEJANP2R2M35
C	165		CKSQYB333K25
C	166		CKSQYB333K25
C	167		CEJA220M16
C	168		CEJA2R2M50
C	169		CKSQYB104K25
C	170		CCSQCH101K50
C	201		CKSQYB224K16
C	202		CKSQYB224K16
C	203		CKSQYB224K16
C	204		CKSQYB224K16
C	205		CEJA1R0M50
C	206	3300µF/16V	CCH1150
C	207		CKSQYB473K50
C	208		CEJA100M16
C	209		CEJA1R0M50
C	210		CEJA330M16
C	253		CEJA4R7M35
C	254		CEJA4R7M35
C	257		CKSQYB221K50
C	258		CKSQYB221K50
C	271		CEJA220M10
C	272		CEJA101M10
C	273		CKSQYB472K50
C	274		CEJA4R7M35
C	275		CEJANP220M10
C	276		CKSQYB222K50
C	277		CKSQYB183K50
C	278		CKSQYB473K25
C	279		CKSQYB273K25
C	280		CKSQYB103K50
C	281		CKSQYB223K50
C	282		CKSQYB153K50
C	283		CEJA4R7M35
C	284		CEJA4R7M35
C	285		CEJA1R0M50

=====Circuit Symbol and No.		===Part Name	Part No.
C	286		CEJA1R0M50
C	287		CKSQYB473K25
C	288		CKSQYB473K16
C	289		CKSQYB103K50
C	301		CEJA100M16
C	302		CEJA100M16
C	362		CKSQYB103K50
C	501		CCSQCH150K50
C	502		CCSQCH150K50
C	503		CKSQYB103K50
C	504		CKSQYB103K50
C	505		CCSQCH101K50
C	506		CKSQYB103K50
C	507		CKSQYB103K50
C	508		CKSQYB102K50
C	509		CEJA220M10
C	512		CKSQYB223K50
C	514		CKSQYB473K16
C	515		CEJA220M6R3
C	516		CKSQYB103K50
C	517		CEJA220M6R3
C	518		CKSQYB103K50
C	522		CKSQYB103K50
C	523		CKLSR473K16
C	525	4.7µF/16V	CCH1250
C	526		CKSQYB103K50
C	529		CCSQCH101K50
C	530		CKSQYB223K50
C	532		CKSQYB473K16
C	533		CKSYB154K25
C	534		CCSQCH101K50
C	601		CCSQCH200J50
C	602		CCSQCH200J50
C	603		CEJA4R7M35
C	604		CCSQCH101J50
C	605		CCSQCH101J50
C	606		CCSQCH101K50
C	607		CCSQCH101K50
C	608		CCSQCH101K50
C	651		CCSQCH821J50
C	652		CCSQCH821J50
C	653		CCSQCH101J50
C	654		CKSYB105K16
C	802		CKSQYB104K25
C	803		CEJA100M16
C	804		CKSQYB103K50
C	805		CEJA100M16
C	806		CKSQYB103K50
C	807		CKSQYB333K25
C	808		CKSQYB333K25
C	853		CKSQYB103K50
C	854		CKSQYB103K50
C	855		CKSQYB103K50
C	856		CKSQYB473K25
C	911		CKSQYB103K50
C	912		CEJA470M10
C	913		CKSQYB472K50
C	914	1000µF/16V	CCH1312
C	921		CKSYB105K16
C	922		CKSQYB102K50
C	941		CEJA2R2M50
C	942		CKSQYB102K50
C	951		CKSQYB103K50
C	952		CEJA101M10
C	953	330µF/10V	CCH1181

Circuit Symbol and No.		Part Name	Part No.
C	971		CKSQYB473K25
C	972		CKSQYB102K50
C	973		CEJA101M10

A Unit Number : CWM5630
Unit Name : Tuner Amp Unit(DEH-546/ES)

MISCELLANEOUS

IC	151	IC	SN761027DL
IC	201	IC	TDA7386
IC	501	IC	PM2006A
IC	601	IC	PD4886A
IC	941	IC	S-80730ANDT
Q	201	Transistor	DTC144EK
Q	253	Transistor	IMD2A
Q	254	Transistor	IMH3A
Q	301	Transistor	DTA124EK
Q	302	Transistor	IMH3A
Q	501	Transistor	2SC2712
Q	601	Transistor	DTA114EK
Q	602	Transistor	DTC114EK
Q	801	Chip Transistor	2SA1162
Q	802	Transistor	2SD1760F5
Q	803	Transistor	DTC114EK
Q	804	Transistor	DTA143EK
Q	805	Transistor	DTC114EK
Q	806	Transistor	2SC2712
Q	807	Transistor	2SB1238
Q	808	Transistor	DTC123EK
Q	809	Transistor	2SD1864
Q	911	Transistor	2SD1760F5
Q	912	Transistor	IMD2A
Q	913	Transistor	DTA114EK
Q	921	Transistor	IMX1
Q	922	Transistor	DTC114EK
Q	923	Transistor	2SC2712
Q	951	Transistor	2SD2396
Q	952	Transistor	2SB1243
Q	953	Transistor	DTC124EK
Q	954	Transistor	2SA1674
Q	955	Transistor	2SA1674
Q	956	Transistor	IMH1A
Q	957	Transistor	2SC2712
Q	971	Transistor	2SD2396
Q	972	Transistor	IMD2A
D	201	Diode	DAN202K
D	251	Diode	1SS133
D	501	Diode	MA152WK
D	801	Diode	DA204K
D	802	Diode	DA204K
D	803	Diode	DA204K
D	804	Diode	MA3062(M)
D	805	Diode	MA3075(L)
D	806	Diode	MA3039(H)
D	901	Diode	ERA15-02VH
D	902	Diode	ERA15-02VH
D	911	Diode	ERA15-02VH
D	912	Diode	HZS6L(B1)
D	921	Diode	HZS7L(C3)
D	922	Diode	ERA15-02VH
D	923	Diode	HZS7L(A1)
D	931	Diode	ERA15-02VH
D	932	Diode	ERA15-02VH
D	951	Diode	HZS9L(B3)
D	952	Diode	HZS9L(A2)
D	953	Diode	1SS133
D	971	Diode	HZS9L(B1)
L	501	Ferri-Inductor	LAU2R2K

Circuit Symbol and No.		Part Name	Part No.
L	502	Ferri-Inductor	LAU2R2K
L	503	Ferri-Inductor	LAU2R2K
L	601	Inductor	LAU100K
L	602	Ferri-Inductor	LAU2R2K
L	603	Ferri-Inductor	LAU2R2K
L	801	Ferri-Inductor	LAU2R2K
L	802	Transformer	MTX9006
TH	601	Thermistor	CCX1037
X	501	Crystal Resonator 7.200MHz	CSS1379
X	601	Resonator 12.58291MHz	CSS1402
		FM/AM Tuner Unit	CWE1485
BZ	601	Buzzer	CPV1011

RESISTORS

R	115	RS1/10S473J
R	133	RS1/10S162J
R	134	RS1/10S162J
R	141	RS1/10S0R0J
R	142	RS1/10S0R0J
R	151	RS1/10S272J
R	152	RS1/10S272J
R	153	RS1/10S151J
R	154	RS1/10S151J
R	155	RS1/10S102J
R	201	RS1/10S103J
R	202	RS1/10S331J
R	203	RS1/10S103J
R	204	RS1/10S103J
R	259	RS1/10S681J
R	260	RS1/10S681J
R	265	RS1/10S223J
R	266	RS1/10S223J
R	268	RS1/10S0R0J
R	269	RS1/10S0R0J
R	301	RS1/10S151J
R	302	RS1/10S151J
R	303	RS1/10S104J
R	304	RS1/10S104J
R	351	RS1/10S0R0J
R	352	RS1/10S0R0J
R	353	RS1/10S0R0J
R	354	RS1/10S0R0J
R	502	RS1/10S222J
R	503	RS1/10S222J
R	504	RS1/10S102J
R	505	RS1/10S222J
R	506	RS1/10S152J
R	507	RS1/10S472J
R	508	RS1/10S472J
R	509	RS1/10S472J
R	510	RS1/10S182J
R	511	RS1/10S103J
R	513	RS1/10S0R0J
R	514	RS1/10S392J
R	515	RS1/10S392J
R	516	RS1/10S152J
R	517	RS1/10S102J
R	518	RS1/10S102J
R	519	RS1/10S102J
R	520	RS1/10S103J
R	521	RS1/10S182J
R	522	RS1/10S562J
R	523	RS1/10S472J
R	526	RS1/10S0R0J

Circuit Symbol and No.	Part Name	Part No.
R 529		RS1/10S0R0J
R 601		RS1/10S102J
R 602		RS1/10S473J
R 604		RS1/10S473J
R 605		RS1/10S473J
R 606		RS1/10S473J
R 607		RS1/10S473J
R 608		RS1/10S473J
R 609		RS1/10S473J
R 610		RS1/10S222J
R 611		RS1/10S222J
R 612		RS1/10S222J
R 613		RS1/10S393J
R 614		RS1/10S473J
R 615		RN1/10SE2002D
R 616		RS1/10S473J
R 617		RS1/10S473J
R 618		RS1/10S473J
R 619		RS1/10S103J
R 620		RS1/10S473J
R 621		RS1/10S202J
R 622		RS1/10S102J
R 623		RS1/10S473J
R 624		RS1/10S473J
R 625		RS1/10S681J
R 626		RS1/10S102J
R 627		RA3C681J
R 630		RS1/10S473J
R 631		RS1/10S473J
R 632		RS1/10S393J
R 633		RS1/10S0R0J
R 634		RS1/10S0R0J
R 636		RS1/10S473J
R 639		RS1/10S473J
R 651		RS1/10S681J
R 652		RS1/10S681J
R 653		RS1/10S681J
R 654		RS1/10S681J
R 753		RS1/10S473J
R 801		RS1/8S222J
R 802		RS1/8S222J
R 803		RS1/8S222J
R 804		RS1/10S132J
R 805		RS1/10S822J
R 806		RS2PMF100J
R 807		RD1/4PU471J
R 808		RS1/10S223J
R 809		RS1/10S682J
R 810		RS1/10S103J
R 811		RS1/10S224J
R 812		RS1/10S104J
R 813		RS2PMF220J
R 814		RS1/10S222J
R 815		RD1/4PU152J
R 852		RS1/10S473J
R 866		RS1/10S473J
R 867		RS1/10S473J
R 911		RS1/10S752J
R 912		RS1/10S101J
R 913		RS1/10S392J
R 921		RS1/10S103J
R 922		RS1/10S473J
R 923		RS1/10S103J
R 924		RS1/10S103J
R 925		RS1/10S473J

Circuit Symbol and No.	Part Name	Part No.
R 926		RS1/10S472J
R 927		RS1/10S224J
R 941		RS1/10S102J
R 942		RS1/10S822J
R 951		RD1/4PU221J
R 952		RD1/4PU511J
R 953		RS1/10S1R0J
R 954		RD1/4PU331J
R 955		RD1/4PU331J
R 956		RS1/10S472J
R 957		RD1/4PU102J
R 958		RS1/10S472J
R 959		RD1/4PU102J
R 960		RS1/10S472J
R 961		RS1/10S103J
R 962		RS1/10S473J
R 963		RS1/10S473J
R 971		RD1/4PU221J
R 972		RS1/10S221J
R 973		RS1/10S472J
R 974		RS1/10S222J
CAPACITORS		
C 133		CKSQYB473K16
C 134		CKSQYB473K16
C 135		CEJA4R7M35
C 136		CEJA4R7M35
C 137		CEJA2R2M50
C 138		CEJA2R2M50
C 151		CKSQYB473K25
C 152		CEJA470M10
C 153		CEJANP100M16
C 154		CEJANP100M16
C 155		CKSQYB822K50
C 156		CKSQYB822K50
C 157		CEJA1R0M50
C 158		CEJA1R0M50
C 159		CKSQYB183K50
C 160		CKSQYB183K50
C 161		CKSQYB102K50
C 162		CKSQYB102K50
C 163		CEJANP2R2M35
C 164		CEJANP2R2M35
C 165		CKSQYB333K25
C 166		CKSQYB333K25
C 167		CEJA220M16
C 168		CEJA2R2M50
C 169		CKSQYB104K25
C 170		CCSQCH101K50
C 201		CKSQYB224K16
C 202		CKSQYB224K16
C 203		CKSQYB224K16
C 204		CKSQYB224K16
C 205		CEJA1R0M50
C 206	3300µF/16V	CCH1150
C 207		CKSQYB473K50
C 208		CEJA100M16
C 209		CEJA1R0M50
C 210		CEJA330M16
C 253		CEJA4R7M35
C 254		CEJA4R7M35
C 301		CEJA100M16
C 302		CEJA100M16
C 501		CCSQCH150K50
C 502		CCSQCH150K50
C 503		CKSQYB103K50
C 504		CKSQYB103K50
C 505		CCSQCH101K50

Circuit Symbol and No.		Part Name	Part No.
C	506		CKSQYB103K50
C	507		CKSQYB103K50
C	508		CKSQYB102K50
C	509		CEJA220M10
C	512		CKSQYB223K50
C	514		CKSQYB473K16
C	515		CEJA220M6R3
C	516		CKSQYB103K50
C	517		CEJA220M6R3
C	518		CKSQYB103K50
C	522		CKSQYB103K50
C	523		CKLSR473K16
C	525	4.7µF/16V	CCH1250
C	526		CKSQYB103K50
C	529		CCSQCH101K50
C	530		CKSQYB223K50
C	532		CKSQYB473K16
C	533		CKSYB154K25
C	534		CCSQCH101K50
C	601		CCSQCH200J50
C	602		CCSQCH200J50
C	603		CEJA4R7M35
C	604		CCSQCH101J50
C	605		CCSQCH101J50
C	606		CCSQCH101K50
C	607		CCSQCH101K50
C	608		CCSQCH101K50
C	651		CCSQCH821J50
C	652		CCSQCH821J50
C	653		CCSQCH101J50
C	802		CKSQYB104K25
C	803		CEJA100M16
C	804		CKSQYB103K50
C	805		CEJA100M16
C	806		CKSQYB103K50
C	807		CKSQYB333K25
C	808		CKSQYB333K25
C	911		CKSQYB103K50
C	912		CEJA470M10
C	913		CKSQYB472K50
C	914	1000µF/16V	CCH1312
C	921		CKSYB105K16
C	922		CKSQYB102K50
C	941		CEJA2R2M50
C	942		CKSQYB102K50
C	951		CKSQYB103K50
C	952		CEJA101M10
C	953	330µF/10V	CCH1181
C	971		CKSQYB473K25
C	972		CKSQYB102K50
C	973		CEJA101M10

D

Unit Number : CWX2224
Unit Name : Control Unit

MISCELLANEOUS

IC	101	IC	UPC2572GS
IC	201	IC	UPD63702AGF
IC	301	IC	BA6997FM
IC	302	IC	BA6285FP
IC	601	IC	TA2063F
IC	701	IC	BA05SFP
Q	101	Transistor	2SD1664
Q	102	Transistor	UMD2N
D	701	Diode	1SR154-400
D	801		CL200IRX

Circuit Symbol and No.		Part Name	Part No.
D	802		CL200IRX
X	201	Ceramic Resonator 16.93MHz	CSS1363
S	801	Switch(Home)	CSN1028
S	802	Switch(Clamp)	CSN1044

RESISTORS

R	101		RS1/8S100J
R	102		RS1/8S120J
R	103		RS1/16S102J
R	104		RS1/16S822J
R	105		RS1/16S682J
R	106		RS1/16S183J
R	107		RS1/16S822J
R	108		RS1/16S333J
R	109		RS1/16S683J
R	110		RS1/16S134J
R	111		RS1/16S273J
R	112		RS1/16S222J
R	113		RS1/16S103J
R	114		RS1/16S103J
R	115		RS1/16S102J
R	116		RS1/16S163J
R	117		RS1/16S163J
R	201		RS1/16S104J
R	202		RS1/16S473J
R	501		RS1/16S0R0J
R	505		RS1/16S102J
R	507		RA3C102J
R	508		RA4C681J
R	601		RS1/16S102J
R	602		RS1/16S102J
R	603		RS1/16S223J
R	604		RS1/16S223J
R	801		RS1/8S751J
R	802		RS1/8S751J

CAPACITORS

C	101		CEV101M6R3
C	102		CKSQYB104K16
C	103		CEV470M6R3
C	104		CKSYB334K16
C	105		CCSRCH330J50
C	106		CKSRYB103K25
C	107		CEV4R7M35
C	108		CKSQYB273K50
C	109		CCSRCH101J50
C	110		CKSQYB104K16
C	111		CKSRYB332K50
C	112		CKSQYB473K16
C	113		CKSRYB103K25
C	114		CKSRYB391K50
C	115		CCSRCH121J50
C	116		CKSRYB682K25
C	117		CKSRYB333K16
C	118		CKSYB334K16
C	119		CKSYB334K16
C	120		CKSYB334K16
C	121		CKSYB334K16
C	122		CKSQYB104K16
C	123		CKSRYB472K50
C	124		CKSQYB104K16
C	125		CCSRCH6R0D50
C	126		CKSRYB153K25
C	127		CCSRCH102J25
C	201		CKSYB334K16
C	202		CKSQYB104K16
C	203		CKSQYB104K16

=====Circuit Symbol and No.	Part Name	Part No.
C 303		CEV470M16
C 304		CKSRYB103K25
C 305		CKSRYB103K25
C 306		CKSRYB103K25
C 307		CEV100M25
C 502		CKSRYB471K50
C 601		CEV101M6R3
C 602		CKSQYB104K16
C 603		CEV4R7M35
C 604		CEV4R7M35
C 605		CKSRYB152K50
C 606		CKSRYB152K50
C 607		CEV220M6R3
C 701	22µF/6.3V	CCH1300
C 702		CKSYB334K16
C 703		CEV101M6R3
C 901		CCSRCH471J50
C 902		CCSRCH271J50
C 903		CCSRCH471J50
C 904		CCSRCH101J50

KEYBOARD UNIT
Consists of
Keyboard PCB
Switch PCB

C F Unit Number : CWM5636
Unit Name : Keyboard Unit(DEH-P646/ES)

MISCELLANEOUS

IC	1801	IC	PD6197A
IC	1802		RS-140
D	1801	Diode	DA204K
D	1802	Diode	DA204K
D	1821	LED	CL220PGC
D	1822	LED	CL220PGC
D	1825	LED	CL170PGCD
D	1826	LED	CL170PGCD
D	1827	LED	CL170PGCD
D	1828	LED	CL170PGCD
D	1829	LED	CL170PGCD
D	1830	LED	CL170PGCD
D	1831	LED	CL170PGCD
D	1832	LED	CL170PGCD
D	1833	LED	CL170PGCD
D	1834	LED	CL170PGCD
D	1836	LED	CL170PGCD
D	1837	LED	CL170PGCD
D	1838	LED	CL170PGCD
D	1839	LED	CL170PGCD
D	1840	LED	CL170PGCD
D	1841	LED	CL170PGCD
D	1842	LED	CL170PGCD
D	1843	LED	CL170PGCD
X	1801		CSS1423
S	801	Switch	CSN1027
S	1801		CSG1085
S	1802		CSG1086
S	1803	Switch	CSG1041
S	1804		CSG1084
S	1805		CSG1086
S	1806	Switch	CSG1041
S	1807	Switch	CSG1041
S	1808	Switch	CSG1041
S	1809		CSG1085
S	1810		CSG1084
S	1811		CSG1085
S	1812	Switch	CSG1041
S	1813	Switch	CSG1041
S	1814	Switch	CSG1041

=====Circuit Symbol and No.	Part Name	Part No.
S 1815		CSG1061
S 1816	Switch	CSG1041
S 1817	Switch	CSG1041
S 1818	Switch	CSG1041
S 1819	Switch	CSG1041
S 1820	Switch	CSG1041
S 1821	Switch	CSG1041
	LCD	CAW1459

RESISTORS

R 1801		RS1/8S222J
R 1802		RS1/8S222J
R 1803		RS1/10S472J
R 1804		RS1/10S121J
R 1805		RS1/10S2R2J
R 1813		RS1/10S0R0J
R 1814		RS1/10S0R0J
R 1816		RS1/10S0R0J
R 1821		RS1/8S101J
R 1822		RS1/8S181J
R 1823		RS1/8S101J
R 1824		RS1/8S181J
R 1825		RS1/8S101J
R 1826		RS1/8S181J
R 1827		RS1/8S101J
R 1828		RS1/8S121J
R 1829		RS1/8S101J
R 1830		RS1/8S181J
R 1831		RS1/8S201J
R 1832		RS1/8S221J
R 1833		RS1/8S101J
R 1834		RS1/8S181J
R 1835		RS1/8S101J
R 1836		RS1/8S181J
R 1837		RS1/8S101J
R 1838		RS1/8S181J
R 1839		RS1/8S101J
R 1840		RS1/8S181J

CAPACITORS

C 1801	CKSQYB104K50
C 1802	CEV100M16
C 1803	CKSQYB104K25
C 1804	CKSQYB104K25
C 1805	CKSQYB104K50
C 1806	CKSQYB104K25

KEYBOARD UNIT
Consists of
Keyboard PCB
Switch PCB

C F Unit Number : CWM5640
Unit Name : Keyboard Unit(DEH-546/ES)

MISCELLANEOUS

IC	1801	IC	PD6197A
IC	1802		RS-140
D	1801	Diode	DA204K
D	1802	Diode	DA204K
D	1821	LED	CL220PGC
D	1822	LED	CL220PGC
D	1825	LED	CL170PGCD
D	1827	LED	CL170PGCD
D	1828	LED	CL170PGCD
D	1829	LED	CL170PGCD
D	1831	LED	CL170PGCD
D	1832	LED	CL170PGCD
D	1834	LED	CL170PGCD
D	1836	LED	CL170PGCD
D	1837	LED	CL170PGCD

=====Circuit Symbol and No.		===Part Name	Part No.
D	1838	LED	CL170PGCD
D	1839	LED	CL170PGCD
D	1840	LED	CL170PGCD
D	1841	LED	CL170PGCD
D	1842	LED	CL170PGCD
D	1843	LED	CL170PGCD
X	1801		CSS1423
S	801	Switch	CSN1027
S	1801		CSG1085
S	1802		CSG1086
S	1803	Switch	CSG1041
S	1804		CSG1084
S	1805		CSG1084
S	1806	Switch	CSG1041
S	1807	Switch	CSG1041
S	1808	Switch	CSG1041
S	1809		CSG1085
S	1810		CSG1084
S	1811		CSG1085
S	1812	Switch	CSG1041
S	1813	Switch	CSG1041
S	1814	Switch	CSG1041
S	1815		CSG1061
S	1816	Switch	CSG1041
S	1817	Switch	CSG1041
S	1818	Switch	CSG1041
S	1819	Switch	CSG1041
S	1820	Switch	CSG1041
S	1821	Switch	CSG1041
		LCD	CAW1479

RESISTORS

R	1801		RS1/8S222J
R	1802		RS1/8S222J
R	1803		RS1/10S472J
R	1804		RS1/10S121J
R	1805		RS1/10S2R2J
R	1813		RS1/10S0R0J
R	1814		RS1/10S0R0J
R	1816		RS1/10S0R0J
R	1821		RS1/8S201J
R	1822		RS1/8S221J
R	1823		RS1/8S201J
R	1824		RS1/8S221J
R	1825		RS1/8S201J
R	1826		RS1/8S221J
R	1827		RS1/8S101J
R	1828		RS1/8S121J
R	1829		RS1/8S101J
R	1830		RS1/8S181J
R	1831		RS1/8S201J
R	1832		RS1/8S221J
R	1833		RS1/8S101J
R	1834		RS1/8S181J
R	1835		RS1/8S101J
R	1836		RS1/8S181J
R	1837		RS1/8S101J
R	1838		RS1/8S181J
R	1839		RS1/8S201J
R	1840		RS1/8S221J
R	1841		RS1/10S0R0J
R	1842		RS1/10S0R0J
R	1843		RS1/10S0R0J
R	1845		RS1/10S0R0J

=====Circuit Symbol and No.		===Part Name	Part No.
CAPACITORS			
C	1801		CKSQYB104K50
C	1802		CEV100M16
C	1803		CKSQYB104K25
C	1804		CKSQYB104K25
C	1805		CKSQYB104K50
C	1806		CKSQYB104K25

E Unit Number :
Unit Name : Photo Unit

Q	1	Photo-transistor	CPT-230S-X
Q	2	Photo-transistor	CPT-230S-X

Miscellaneous Parts List

		Pickup Unit(Service)	CXX1230
M	1	Motor Unit	CXA8912
M	2	CRG Motor Unit	CXA8986
M	3	Load Motor Unit	CXA8702

6. ADJUSTMENT

6.1 TUNER ADJUSTMENT

● Connection Diagram

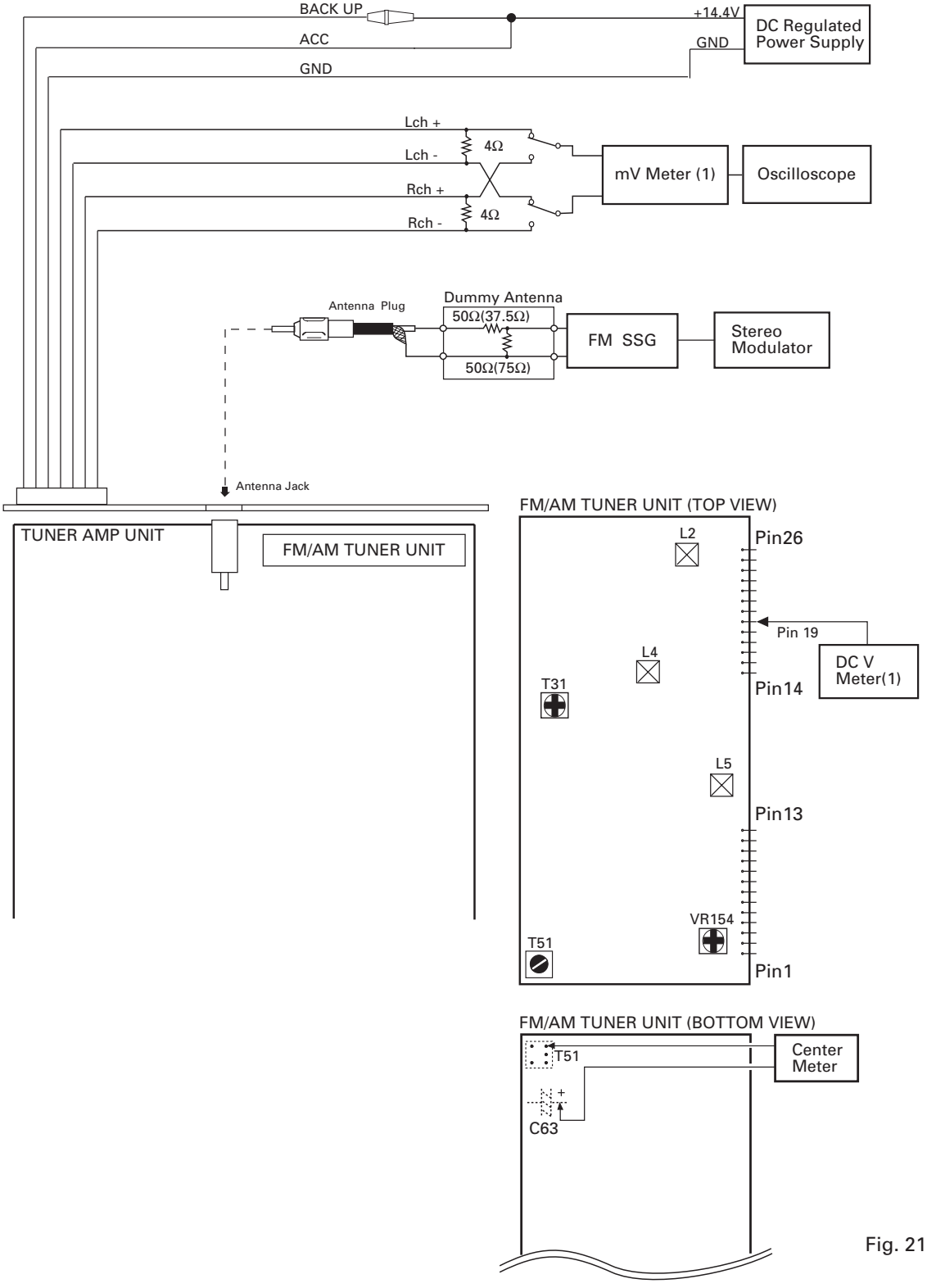


Fig. 21

FM ADJUSTMENT

Modulation M:MONO MOD., 400Hz 30%(22.5kHz Dev.)
S:STEREO MOD., 1kHz, L or R=30%(20.25kHz+7.5kHz Dev.)

NOTE:Before proceeding to further adjustments after switching power ON, let the tuner run for ten minutes to allow the circuits to stabilize.

FM ADJUSTMENT

	No.	FM SSG		Displayed	Adjustment	Adjustment Method
		Frequency(MHz)	Level(dBf)	Frequency(MHz)	Point	(Switch Position)
TUN Volt	1	•••••	•••••	108.0	L5	DC V Meter(1) : 6V
IF	1	98.1 M	60	98.1	T51	Center Meter : 0
ANT Coil	1	98.1 M	5	98.1	L2	mV Meter(1) : Maximum
RF Coil	1	98.1 M	5	98.1	L4	mV Meter(1) : Maximum
IFT	1	98.1 M	5	98.1	T31	mV Meter(1) : Maximum (STEREO MODE)
ARC	1	98.1 S	39	98.1	VR154	mV Meter(1) : Separation 5dB (STEREO MODE)

6.2 CD SECTION

1)Precautions

• This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.
If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.
Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.
Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.
If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

• Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.

• Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.

• Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.

• Test mode starting procedure
Switch ACC, back-up ON while pressing the **4** and **6** keys together.

• Test mode cancellation
Switch ACC, back-up OFF.

• Disc detection during loading and eject operations is performed by means of a photo transistor in this unit.Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.
*During PLAY, even if the eject button is pressed,the disc will not be ejected and the unit will remain in the PLAY mode.
*The unit will not load a disc.
When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

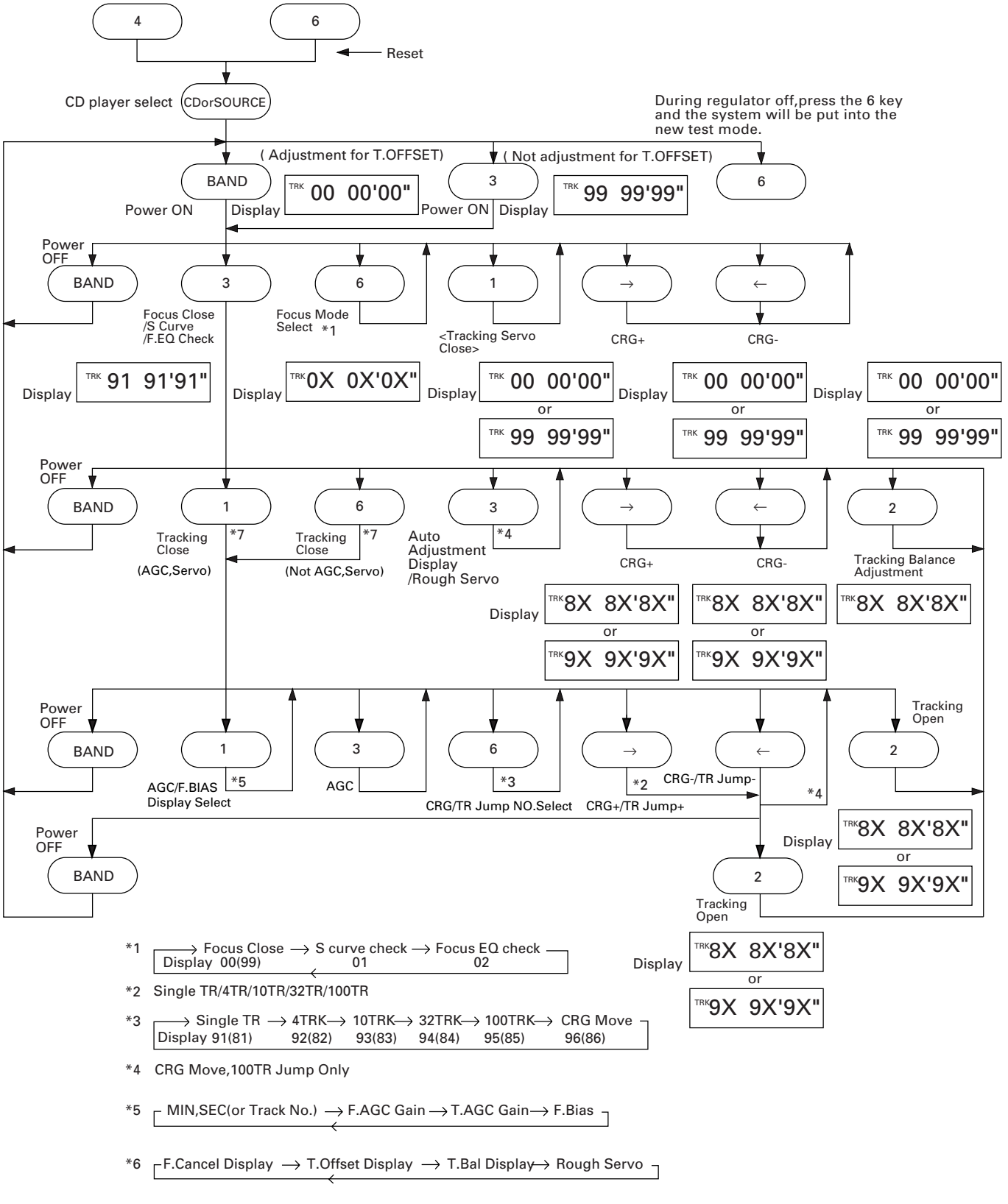
• When loading and unloading discs during adjustment procedures, always wait for the disc to be properly clamped or ejected before pressing another key. Otherwise, there is a risk of the actuator being destroyed.

• Turn power off when pressing the button → or the button ← key for focus search in the test mode. (Or else lens may stick and the actuator may be damaged.)

• SINGLE/4TRK/10TRK/32TRK will continue to operate even after the key is released.Tracking is closed the moment C-MOVE is released.

• JUMP MODE resets to SINGLE as soon as power is switched OFF.

● Flow Chart



*1 → Focus Close → S curve check → Focus EQ check
Display 00(99) 01 02

*2 Single TR/4TR/10TR/32TR/100TR

*3 → Single TR → 4TRK → 10TRK → 32TRK → 100TRK → CRG Move
Display 91(81) 92(82) 93(83) 94(84) 95(85) 96(86)

*4 CRG Move,100TR Jump Only

*5 MIN,SEC(or Track No.) → F.AGC Gain → T.AGC Gain → F.Bias

*6 F.Cancel Display → T.Offset Display → T.Bal Display → Rough Servo

6.3 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

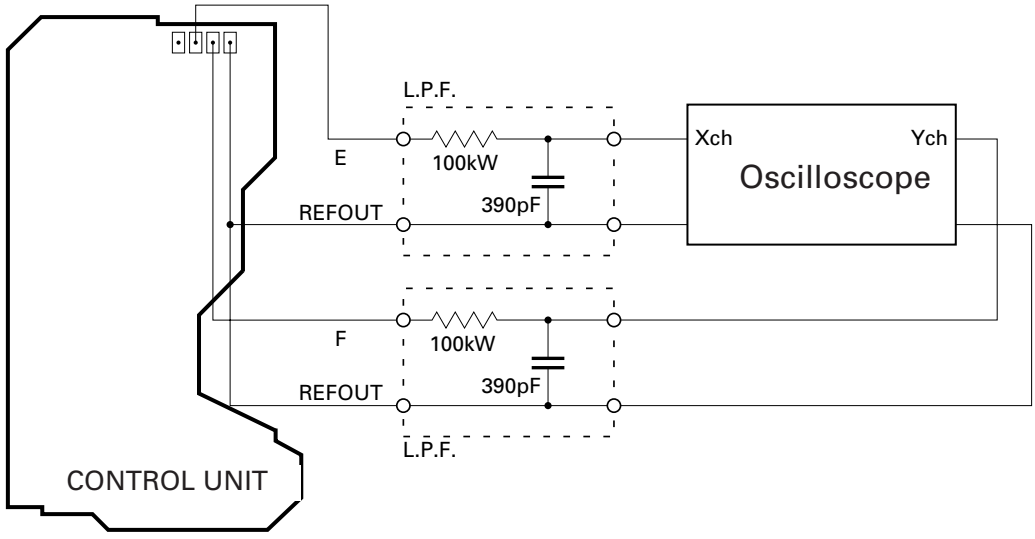
• **Note :**
Unlike previous CD mechanism modules the grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

• **Purpose :**
To check that the grating is within an acceptable range.

• **Symptoms of Mal-adjustment :**
If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or track searching taking a long time, may appear.

• **Method :**

• Measuring Equipment	• Oscilloscope, Two L.P.F.
• Measuring Points	• E, F, REFOUT
• Disc	• ABEX TCD-784
• Mode	• TEST MODE



• **Checking Procedure**
1. In test mode, load the disc and switch the 5V regulator on.
2. Using the → and ← buttons, move the PU unit to the innermost track.
3. Press key **3** to close focus, the display should read "91". Press key **2** to implement the tracking balance adjustment the display should now read "81". Press key **3** 4 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75° . Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

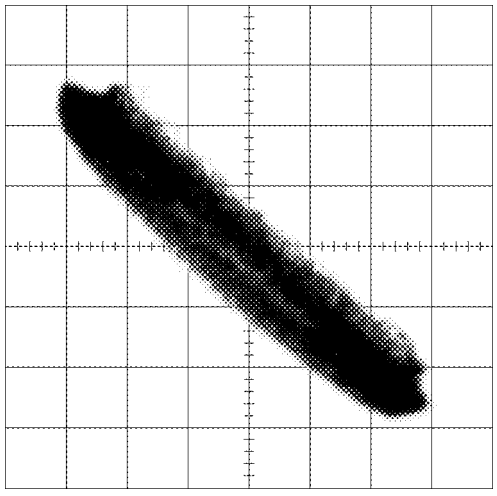
• **Note**
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" (the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

• **Hint**
Reloading the disc changes the clamp position and may decrease the "wobble".

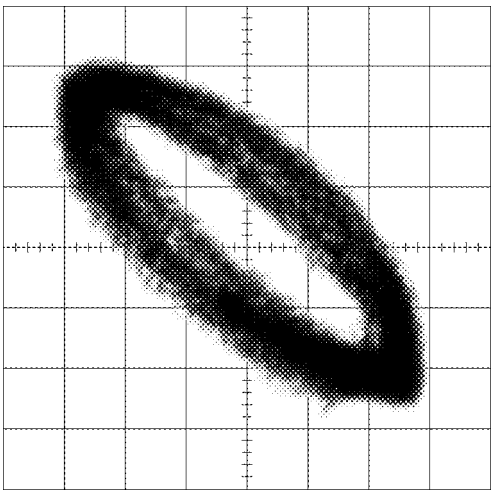
Grating waveform

Ech → Xch 20mV/div, AC
Fch → Ych 20mV/div, AC

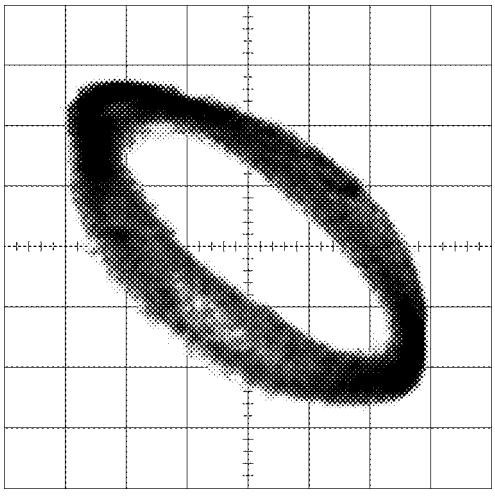
0°



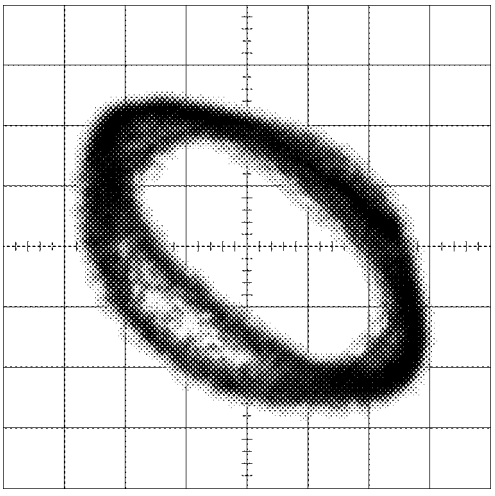
30°



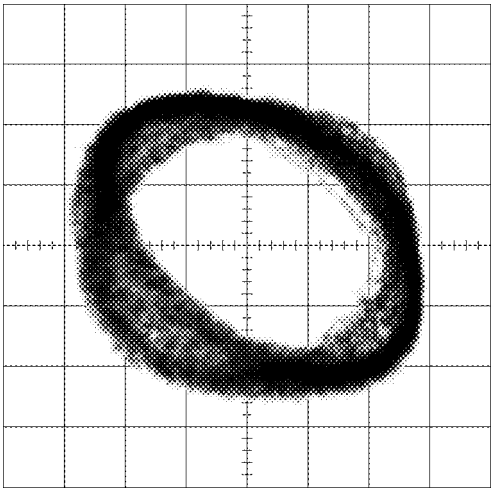
45°



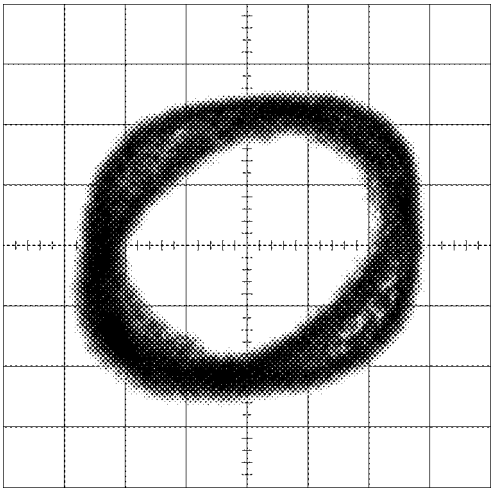
60°



75°



90°



7. GENERAL INFORMATION

7.1 PARTS

7.1.1 IC

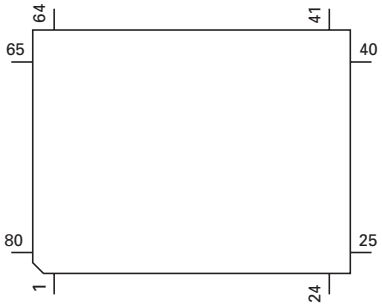
● **Pin Functions (UPD63702AGF)**

Pin No.	Pin Name	I/O	Function and Operation
1	D.VDD		Supplies current of positive voltage to the logic circuits
2	$\overline{\text{RST}}$	I	System reset input pin
3	AO	I	Microcomputer interface AO="L": $\overline{\text{STB}}$ active and set to address register AO="H": $\overline{\text{STB}}$ active and set to parameter
4	$\overline{\text{STB}}$	I	Signal to latch serial data within the LSI
5	$\overline{\text{SCK}}$	I	Clock input pin to input and output serial data
6	SO	O	Outputs serial data and status signal
7	SI	I	Serial data input pin
8	D.GND		Logic circuit GND
9	X.GND		Crystal oscillation circuit GND
10	XTAL	I	Crystal oscillator connection pin
11	$\overline{\text{XTAL}}$	O	Crystal oscillator connection pin
12	X.VDD		Supplies current of positive voltage to the crystal oscillation circuit
13	DA.VDD		Supplies current of positive voltage to the D/A converter
14	R+	O	Right channel analog audio data output pin
15	R-	O	Right channel analog audio data output pin
16,17	DA.GND		D/A converter GND
18	L-	O	Left channel analog audio data output pin
19	L+	O	Left channel analog audio data output pin
20	DA.VDD		Supplies current of positive voltage to the D/A converter
21	D.VDD		Supplies current of positive voltage to logic circuit
22	FLAG	O	Flag output pin to indicate that audio data currently being output consists of noncorrectable data
23	WDCK	O	Pin to output double the frequency of LRCK
24	C16M	O	Pin to output the clock
25	EMPH	O	Output pin for the pre-emphasis data in the sub-Q code
26	DIN	I	Input pin for serial audio data
27	DOUT	O	Output pin for the serial audio data
28	SCKO	O	Output pin for the clock for the serial audio data
29	LRCK	O	Signals to distinguish the right and left channels of the audio data output from DOUT. Frequency is 44.1kHz at 50% duty at normal regeneration
30	TX	O	Output pin for the digital audio interface data
31	CTLV	I	Oscillation control pin for high-frequency clock generation VCO used for the digital PLL upon regeneration at fast speed of 2- or 4-fold
32	POUT	O	Output point for phase comparison
33	D.GND		GND for the logic circuit
34	VCO	I	Input pin for the inverter
35	$\overline{\text{VCO}}$	O	Output pin for the inverter
36	D.VDD		Supplies current of positive voltage to the logic circuit
37	PLCK	O	Pin for monitoring the bit clock
38	LOCK	O	Indicates "H" when the synchronized pattern detection signal matches the frame counter output at the EFM recovery modulation, and "L" when they don't match
39	WFCK	O	Minute-cycle signal for the bit clock, the signal indicates the cycle of 1 frame (approx. 7.35kHz)
40	RFCK	O	Minute-cycle signal for the clock, the signal indicates cycle of 1 frame (approx. 7.35kHz)
41	D.GND		GND for the logic circuit
42,43	TEST0,1	I	Test pins
44,45	TM2, TM4	I	Pins for controlling regeneration at fast speed of 2- or 4-fold
46-49	T4-T7	I	Test pins
50,51	C1D1, C1D2	O	Output pin for indicating the C1 error correction results

Pin No.	Pin Name	I/O	Function and Operation
52-54	C2D1-C2D3	O	Output pin for indicating the C2 error correction results
55	D.VDD		Supplies current of positive voltage to the logic circuit
56	SFSY	O	Outputs 1 word of the subcode. Generally, 1 cycle is approx 136 micro seconds
57	SBSY	O	The signal indicates the beginning of the subcode block. The SFSY signal is output at high level every 98 times
58	SBSO	O	Output pin for the subcode data
59	SBCK	I	Input pin for the clock signal for read-out of the subcode data
60	A.GND		GND for the analog circuit
61	MD	O	Output pin for the spindle drive
62	SD	O	Output pin for the sled drive
63	TD	O	Output pin for the tracking drive
64	FD	O	Output pin for the focus drive
65	FBAL	O	Output pin for the focus balance control
66	TBAL	O	Output pin for the tracking balance control
67	A.VDD		Supplies current of positive voltage to the analog circuit
68	TBC	I	Switches coefficient banks for the tracking filter
69	EFM	I	Input pin for the EFM signal
70	HOLD	I	Input pin for the hold control signal
71	RFOK	I	Input pin for the RFOK signal
72	MIRR	I	Input pin for the MIRR signal
73	A.GND		GND for the analog circuit
74	HOME	I	Home position detector input
75	VR1	I	The signal input through these pins is digitized to 8-bit by the A/D converter, which by operation of the assigned register, can be read into the microcomputer
76	FE	I	Inputs a focus-error signal from the RF amplifier
77	TE	I	Inputs a tracking-error signal from the RF amplifier
78	TEC	I	Input pin for the tracking comparator
79	REFOUT	O	Output point for midpoint potential for the A/D converter for the LSI portion
80	A.VDD		Supplies current of accurate voltage to the analog circuit

IC's marked by* are MOS type.
Be careful in handling them because they are very liable to be damaged by electrostatic induction.

*UPD63702AGF



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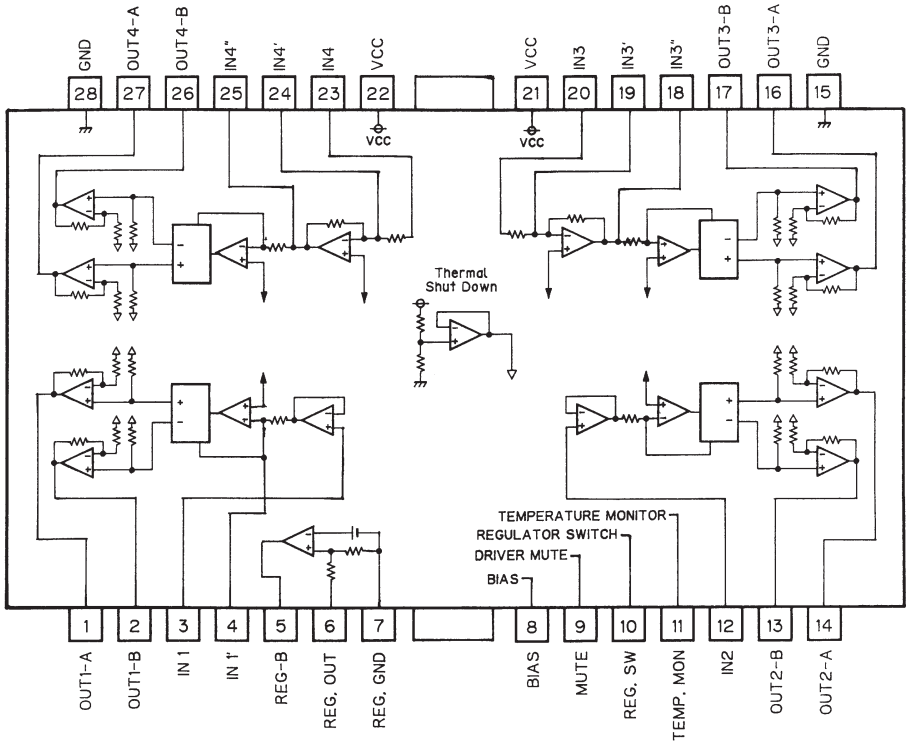

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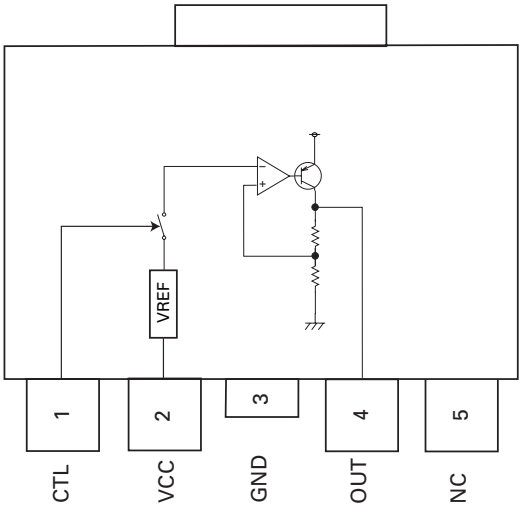

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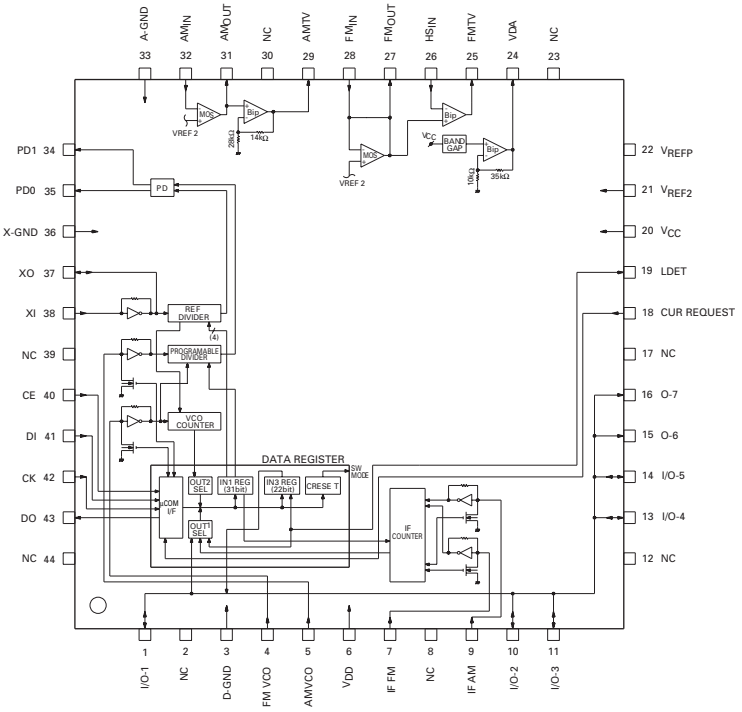

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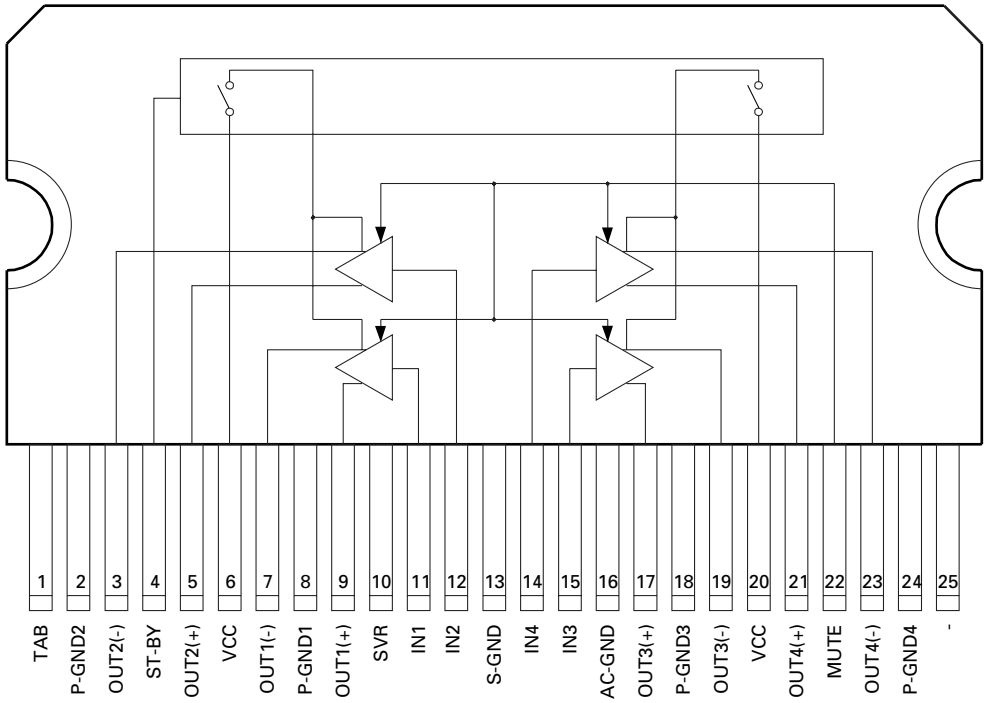
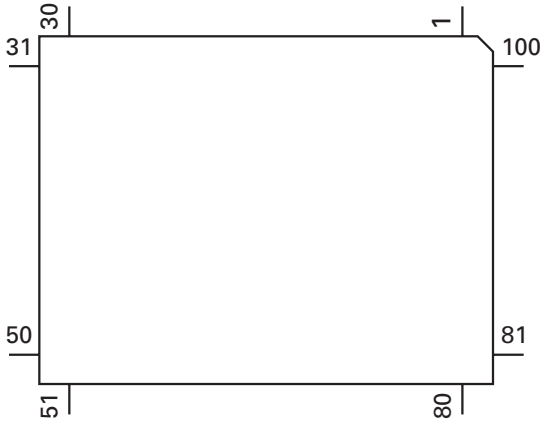


● **Pin Functions(PD4886A,PD4957A)**

Pin No.	Pin Name	I/O	Function and Operation
1	$\overline{\text{SWVDD}}$	O	Grille power supply control output
2	$\overline{\text{DSENS}}$	I	Grille detach sense input
3	NC		Not used
4	$\overline{\text{ISENS}}$	I	Illumination sense input
5	TESTIN	I	Test program mode input
6-10	NC		Not used
11	$\overline{\text{RESET}}$	I	Reset input
12	XT2		Open
13	XT1	I	Connect to VSS
14	VSS		GND
15	X2		Crystal oscillator connection pin
16	X1	I	Crystal oscillator connection pin (12.582912MHz)
17	REGC		Connect to VDD
18	REGOFF		Connect to VDD
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPWR	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power output
23	LCDPW	O	LCD back light power supply control output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ASENBO	O	Slave power supply control output
26	AMPW	O	AM power output
27	NC		Not used
28	MUTE	O	Mute output
29	DIM	O	Dimmer select output
30	FIEOUT	O	FIE ON/OFF control output
31	SUBW1	O	Sub woofer control 1 output
32	SUBW0	O	Sub woofer control 0 output
33	VCK	O	Clock output for electronic volume
34	VST	O	Strobe pulse output for electronic volume
35	VDT	O	Data output for electronic volume
36,37	NC		Not used
38	SD	I	SD input
39	$\overline{\text{ST}}$	I	FM stereo input
40	VSS		GND
41	VDD		Power supply
42-46	NC		Not used
47	DRELAY	O	External relay output
48	DRSENS	I	Door open/close sense input
49	DRSYS	O	Door system select output
50	$\overline{\text{DLED}}$	O	Alarm LED output
51	DLSENS	I	Door lock sense input
52	STCUT	O	Ignition cut off output
53	$\overline{\text{MOSENS}}$	I	Motion/window damage sensor input
54	CD5VON	O	CD +5V power supply control output
55	CONT	O	Servo driver power supply control output
56	VDCONT	O	VD control output
57	CDMUTE	O	CD mute output
58	CDEJET	O	Load motor eject control output
59	CDLOAD	O	Load motor loading control output
60	LOCK	I	Spindle lock detector input
61	FOK	I	FOK signal input
62	PCL	O	Clock adjustment output
63	MIRR	I	Mirror detector input
64	$\overline{\text{CLAMP}}$	I	Disc clamp sense input
65	$\overline{\text{XSCK}}$	O	LSI clock output
66	XSI	I	LSI data input
67	XSO	O	LSI data output
68	XAO	O	CD LSI data discernment control signal output

Pin No.	Pin Name	I/O	Function and Operation
69	$\overline{\text{XRST}}$	O	CD LSI reset output
70	$\overline{\text{XSTB}}$	O	CD LSI strobe output
71	VCAOUT	O	Sub woofer volume control output
72	SUBMUTE	O	Sub woofer mute output
73	TEST	I	Test terminal
74	SL	I	Signal level input
75	MODEL1	I	Model select input
76,77	NC		Not used
78	EJTSNS	I	Disc EJECT position detect input
79	DSCSNS	I	Disc detect input
80	VDSENS	I	VD over voltage sense input
81	TEMP	I	Temperature detector input
82,83	VDD		Power supply
84	GND		GND
85	RX	I	IP BUS data input
86	TX	O	IP BUS data output
87	GND		GND
88-91	NC		Not used
92	$\overline{\text{ASENS}}$	I	ACC power sense input
93	$\overline{\text{BSENS}}$	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KEYDT	I	Display data input
96	DPDT	O	Display data output
97	TUNPCK	O	PLL IC clock output
98	TUNPDO	O	PLL IC data output
99	TUNPCE	O	PLL IC chip enable output
100	PEE	O	Beep tone output output

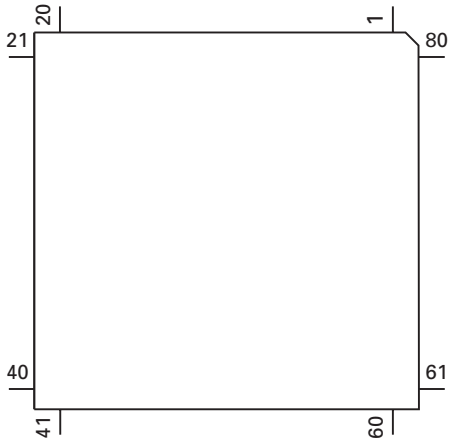
*PD4884A



● Pin Functions (PD6197A)

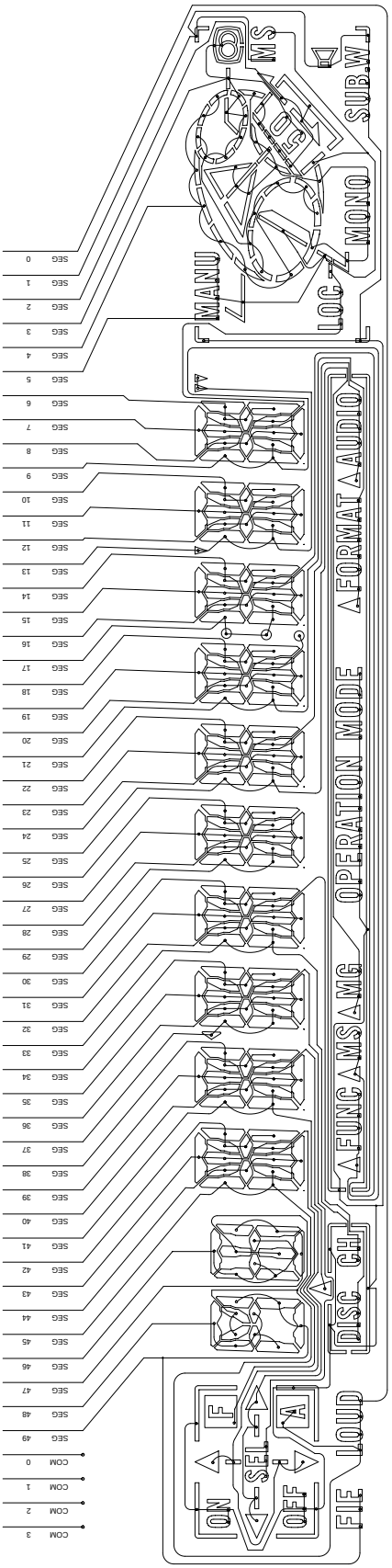
Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	NC		Not used
5,6	MOD1,0	I	Connect to GND
7	NC		Not used
8	KYDT	O	Display/key data output
9	DPDT	I	Display/key data input
10	REMIN	I	Remote control pulse input
11,12	NC		Not used
13-16	$\overline{KD4}$-$\overline{KD1}$	I	Key data input
17-21	$\overline{KS6}$-$\overline{KS2}$	O	Key strobe output
22	NC		Not used
23	VDD		VDD
24-73	SEG0-49	O	LCD segment output
74-77	COM3-0	O	LCD common output
78	VLCD	I	LCD voltage input
79,80	V2,V1		Power supply terminal

*PD6197A



7.1.2 DISPLAY

- **CAW1459 (DEH-P646/ES)**
- **CAW1479 (DEH-546/ES)**



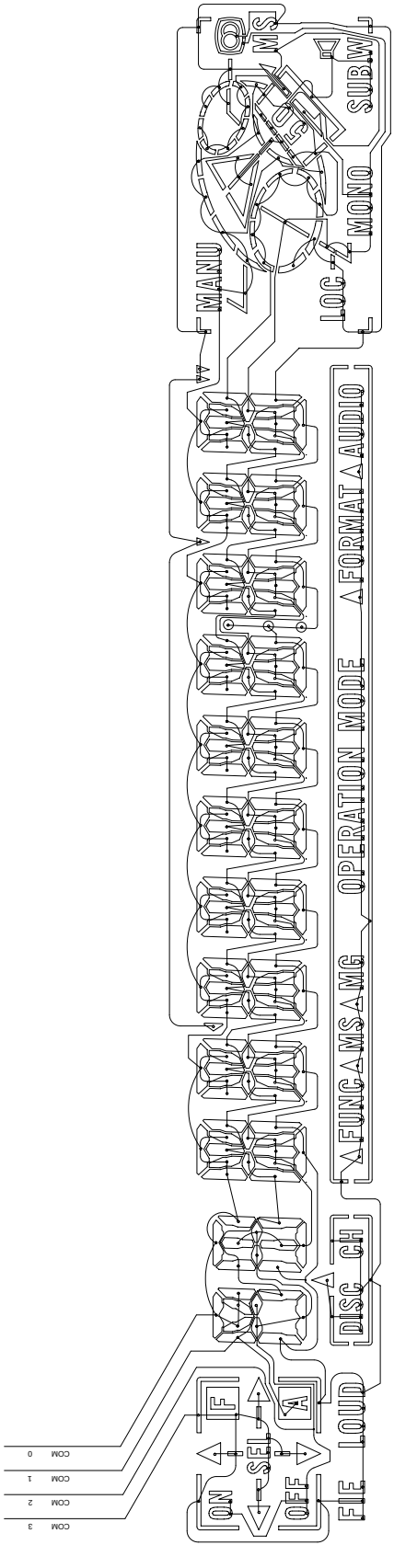


Fig. 22

7.2 DIAGNOSIS

7.2.1 DISASSEMBLY

● **Removing the Case(Not shown)**

Removing the two screws.

● **Removing the Detach Grille Assy and CD Mechanism Module**

1. A×4

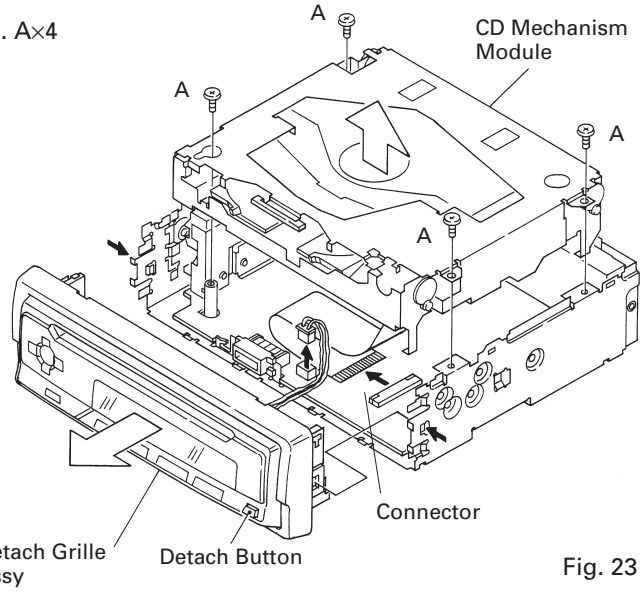


Fig. 23

● **Removing the Chassis Unit and Tuner Amp Unit**

1. A×2
2. B×2
3. C×1
4. D×1

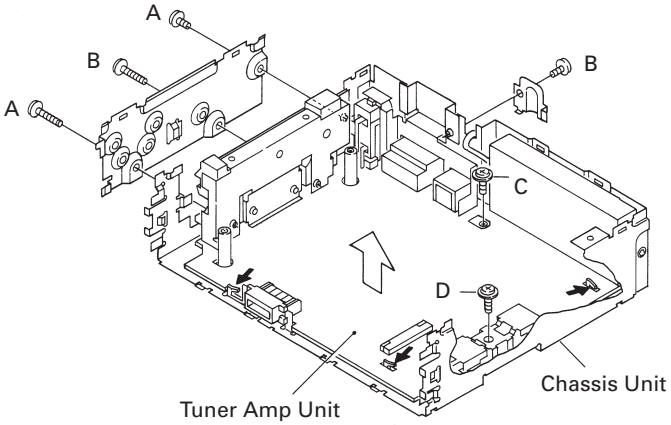


Fig. 24

7.2.2 TEST MODE

● Error Number Indication

The system enters error mode to display the cause of error with a number when the system cannot operate CD or stops operation because of an error. The purpose of this measure is to reduce frequency of calls from users asking help for problems that are caused by incorrect operation by user, as well as to assist analysis and repair in servicing.

(1) Basic means of display

- An error code will be written on DMIN (minute area for display) and DSEC (second area for display) when CSMOD (CD mode area for system) is SERBORM.
  The same data will be written on DMIN and DSEC.
  DTNO shall be blank as before.
- Display examples of the head unit
  Error codes will be displayed as shown below, depending on the capability of LCD. An error number will be displayed in the place of "xx."
  - •8-digit display ERROR-XX
  - •6-digit display ERR-XX or Err-XX
  - •4-digit display E-XX

  With OEM products, display of error codes shall be according to the specificatins of the manufacturer.

(2) Error codes

Error code	Classification	Description	Cause / Detail
10	ELECTRIC	Carriage home failure	Carriage doesn't move to or from the innermost position →Home switch failed and/or carriage immobile
11	ELECTRIC	Focus failure	Focus failed →Defects, disc upside-down, severe vibration
12	ELECTRIC	SETUP failure Subcode failure	Spindle failed to lock or subcode unreadable →Spindle defective, defect, severe vibration
14	ELECTRIC	Mirror failure	Unrecorded CD-R The disc is upside-down, defects, vibration
17	ELECTRIC	Set up failure	AGC protect failed →Defects, disc upside-down, severe vibration
19	ELECTRIC	Improper T.BAL adjustment	Value of T.BAL adjustment is out of parameter.
30	ELECTRIC	Search time out	Failed to reach target address →Carriage / tracking defective and/or defects
A0	SYSTEM	Power failure	Power overvoltage or short circuit detected →Switching transistor defective and/or power abnormal

(4) Number of error codes

One hundred error codes (00 to 99) will be available.

(5) Remarks

- •Error codes are not displayed for the mechanism alone (because CD is OFF when an mechanical error is generated).
- •When the system cannot read TOC, it is not deemed as an error, and the system continues operation to a certain extent.
- •Be sure to take measures as shown in the display examples whenever designing a new head unit.
- •The first digit of an error code has a meaning as follows:
  - 1X : Error related to setup
  - 3X : Error related to the search function
  - AX : Other errors

● New Test Mode

When S-CD is specified as the source, basically the system plays as normal operation. After setup, the system displays the cause and time (absolute time) of an error if focus search is improper, spindle lock is removed, subcode cannot be read, or sound is skipped. During setup, the system displays the operation status of CD control software (internal RAM : CPOINT). The purpose of these displays and functions are to detect aging of servicing, as well as to improve efficiency of defect analysis.

(1) How to enter NEW TEST Mode

1. Reset the system by pressing keys (depending on the product) to enter the conventional Test mode.
2. Select S-CD as the source by pressing the source or CD key, then inserting a disc. Confirm that the regulator is OFF. Press the Switch Jump Mode key.
3. After that, the system will stay in the new Test mode, regardless of whether S-CD is OFF or ON.

To exit from the new Test mode, reset the system.

See the test mode flow chart Page 53.

(2) Relations of keys

keys	Test Mode		New Test Mode	
	Regulator OFF	Regulator ON	PLAY in progress	Error Protection
BAND	To Regulator ON	To Regulator OFF	—	Time / Err No.select
→	—	FWD-Kick	FF / TR+	—
←	—	REV-Kick	REV / TR-	—
1	—	Tracking Close	Scan	—
2	—	Tracking Open	RPT	—
3	—	Focus Close	RDM	—
—	—	Focus Open	—	—
—	—	Jump Off	—	—
6	To New Test Mode	Jump Mode select	Auto / Manu	T.No. / Time select

Operations, such as EJECT, CD ON/OFF are performed normal mode.

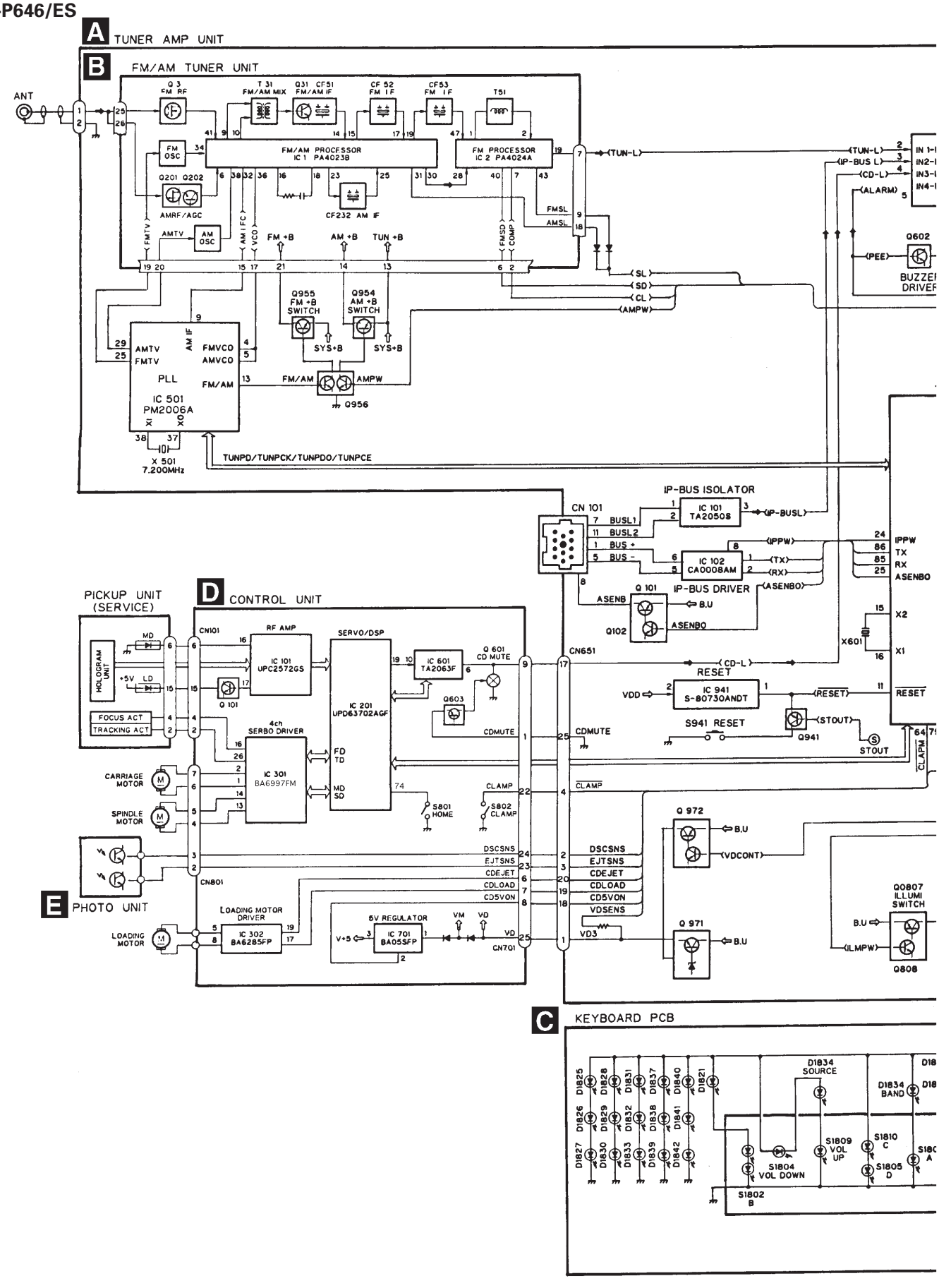
(3) Error Cause, Error Code

Code	Classification	Description	Cause / Details
40	ELECTRIC	Put out of focus	FOK=Low has continued for 100 msec →Damaged or soiled disc. vibration, or detective servo
41	ELECTRIC	Spindle unlock	LOCK=has continued for 100 msec →Damaged or soiled disc. vibration, or detective servo
42	ELECTRIC	Failed to read subcode	The system could not read subcode for 100 msec →Damaged or soiled disc. vibration, or detective servo
43	ELECTRIC	Sound skipped	The last-address-memory function activated →Damaged or soiled disc. vibration, or detective servo

There will be no mechanical error during aging. Error codes should be displayed in the same manner as in Normal mode.

7.3 BLOCK DIAGRAM

● **DEH-P646/ES**



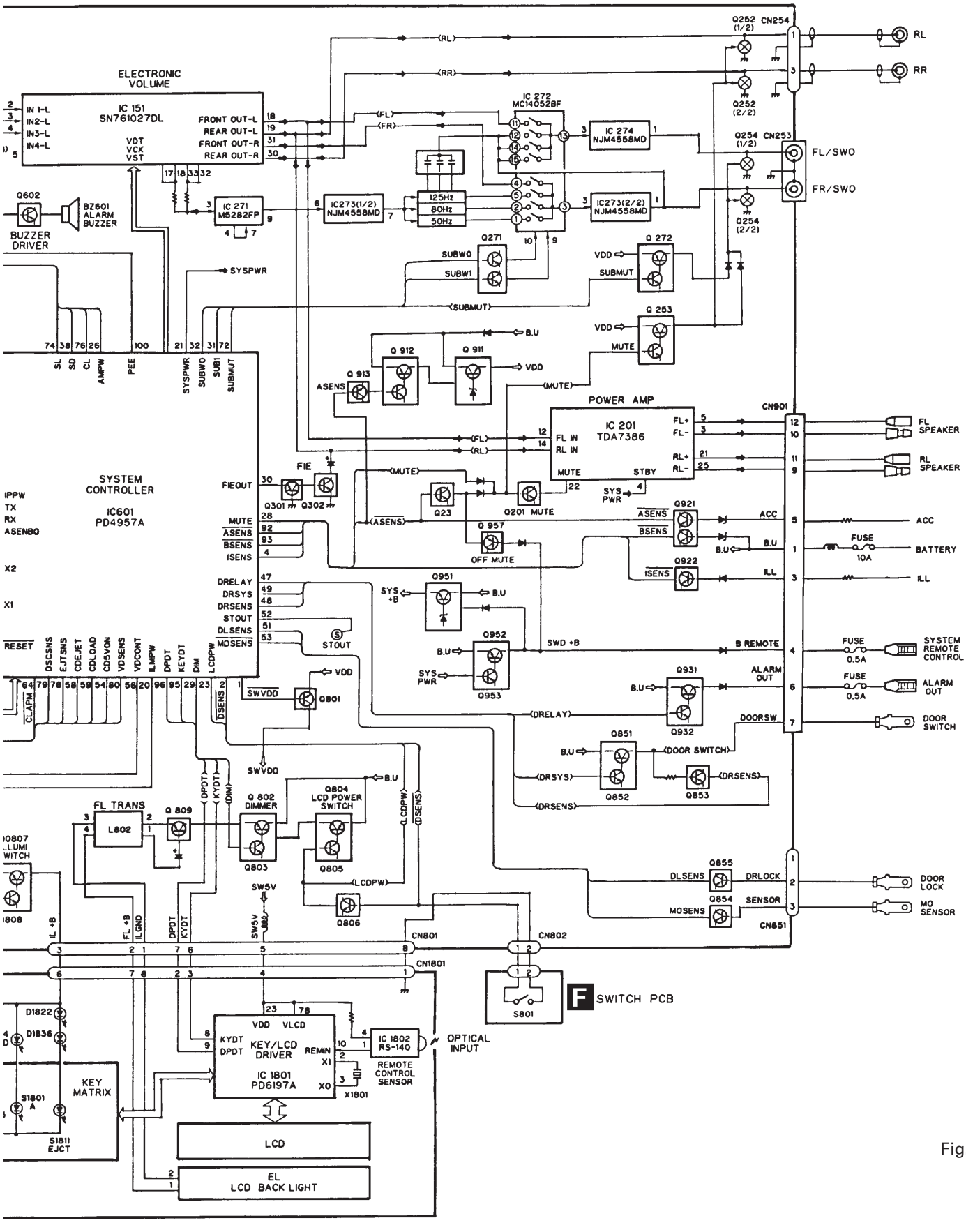

ELECTRONIC VOLUME
IC 151 SN761027DL
IN 1-L
IN2-L
IN3-L
IN4-L
VDT
VCK
VST
FRONT OUT-L
REAR OUT-L
FRONT OUT-R
REAR OUT-R
IC 272 MC140528F
IC 274 NJM4558MD
IC 271 M5282FP
IC273(1/2) NJM4558MD
IC273(2/2) NJM4558MD
125Hz
80Hz
50Hz
Q602
BZ601 ALARM BUZZER
BUZZER DRIVER
SYSPWR
Q271
Q 272
Q 253
Q 912
Q 911
Q 913
ASENS
POWER AMP
IC 201 TDA7386
FL IN
RL IN
MUTE
STBY
SYS PWR
Q201 MUTE
Q23
Q 957
OFF MUTE
FIE
Q301
Q302
SYSTEM CONTROLLER
IC601 PD4957A
FIEOUT
MUTE
ASENS
BSENS
ISENS
DRELAY
DRSYS
DRSENS
STOUT
DLSENS
MDSENS
RESET
Q951
Q952
Q953
Q921
Q922
Q931
Q932
Q851
Q852
Q853
Q855
Q854
Q801
Q802 DIMMER
Q803
Q804 LCD POWER SWITCH
Q805
Q806
Q809
FL TRANS
L802
Q252 CN254 (1/2)
Q252 (2/2)
Q254 CN253 (1/2)
Q254 (2/2)
CN901
CN851
CN801
CN802
CN1801
RL
RR
FL/SWO
FR/SWO
FL SPEAKER
RL SPEAKER
ACC
BATTERY
10A
ILL
SYSTEM REMOTE CONTROL
ALARM OUT
DOOR SWITCH
DOOR LOCK
MO SENSOR
B REMOTE
DOORSW
S801
F SWITCH PCB
D1822
D1836
S1801
A
KEY MATRIX
S1811 EJCT
KEY/LCD DRIVER
IC 1801 PD6197A
IC 1802 RS-140
REMOTE CONTROL SENSOR
X1801
OPTICAL INPUT
LCD
EL LCD BACK LIGHT

Fig. 25

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

● **Connection Diagram**

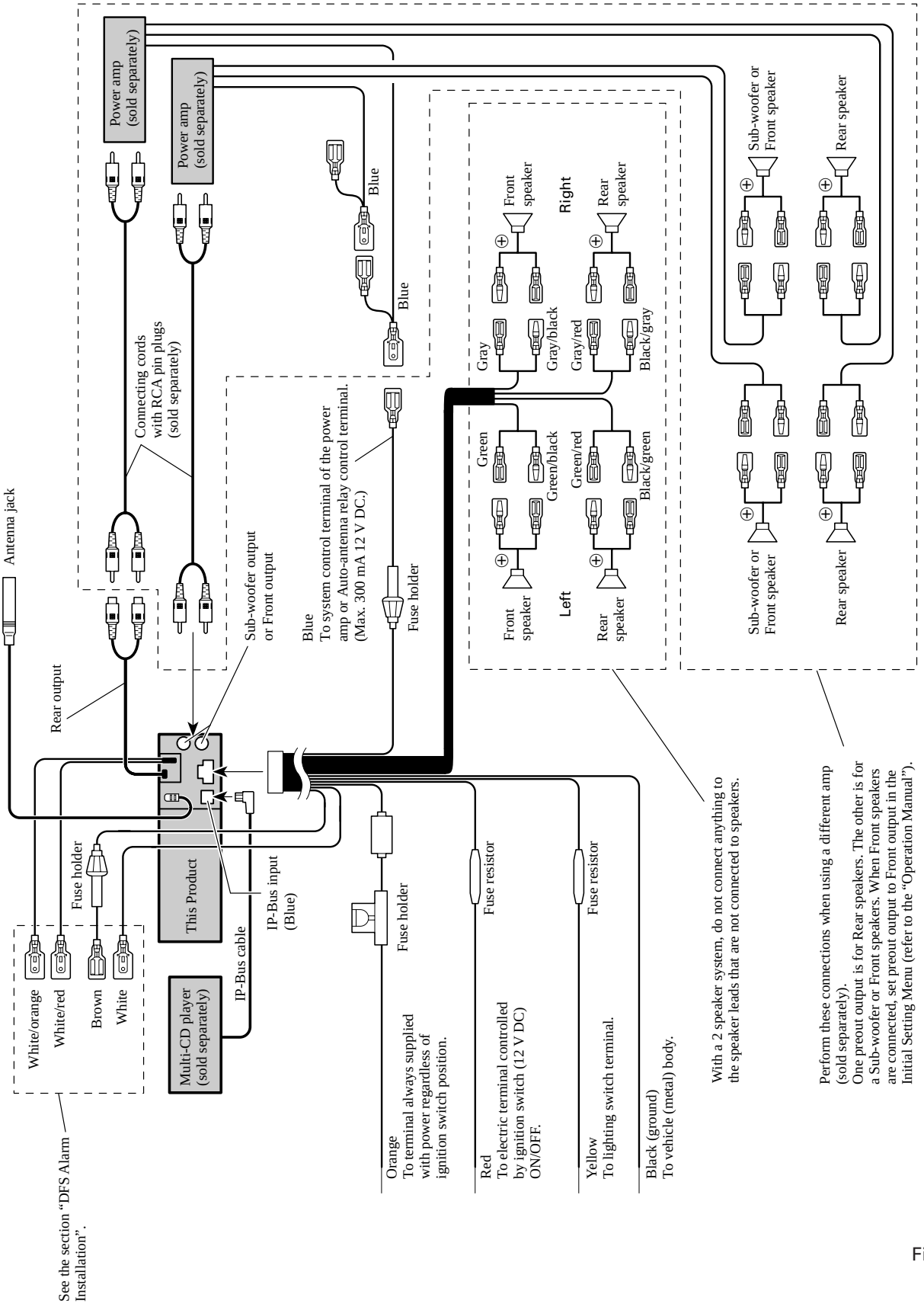


Fig. 26

DFS Alarm Installation

⚠ CAUTION

- Because of the complexity of today's technically advanced vehicle wiring systems, we recommend that your DFS Alarm be installed ONLY by a professional Pioneer installer.

Affix the included deterrent stickers to the inside of the front door windows.

Description

■ **White (DOOR SWITCH)** ..... (Fig. 27,28)
This lead is used to trigger DFS Alarm when any door is opened and may be connected to either positive or negative (+/–) type door pin switches.

■ **Brown (ALARM OUTPUT)** ..... (Fig. 29)
This lead is a selectable constant or pulsed positive (+) output capable of driving up to 2 relays (500 mA) max. Use this lead to trigger relays for siren, horn, honk or flashing lights.

■ **White/Red (ALARM SENSOR)** ..... (Fig. 30)
This lead is a negative (–) input and is provided for hookup of negative triggering sensors such as shock, or glass sensors (sold separately).

■ **White/Orange (DOOR LOCK)** ..... (Fig. 31)
This lead is used to disarm DFS Alarm from power door lock systems or alert systems with remote unlock. This lead may be connected to door lock systems with either positive or negative (+/–) unlock triggers.

Door Switches

The DFS Alarm's door trigger input is designed to work with either positive or negative door pin switches. After hookup, simply set door system type from DFS Alarm Setting Menu.
Domelight Delay-DFS Alarm will wait for last door to close and courtesy light to turn off before Exit Delay Timer Starts.

DOOR SWITCH (White)

Grounding Type Switch:

GM and Chrysler, Japanese, most European vehicles.

Note:

- Set DFS Alarm to recognize ground trigger from DFS Alarm Setting Menu. Set Door System to "DOOR-L :CLS".

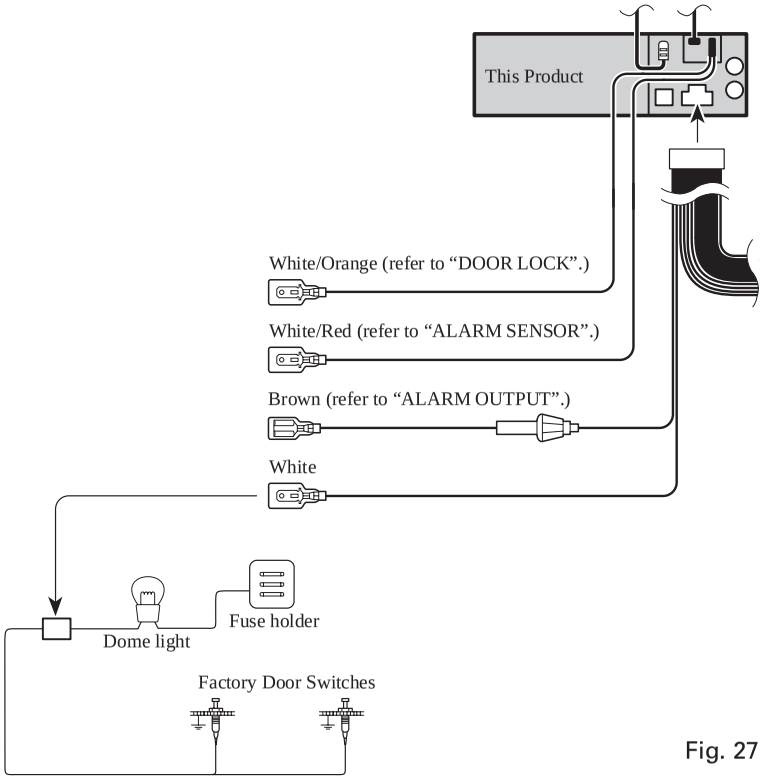


Fig. 27

DFS Alarm Installation

Positive (Non-grounding) Type Switch:

Jaguar, Mercedes, Ford

Note:

- Set DFS Alarm to recognize positive trigger from DFS Alarm Setting Menu. Set Door System to "DOOR-H :CLS".

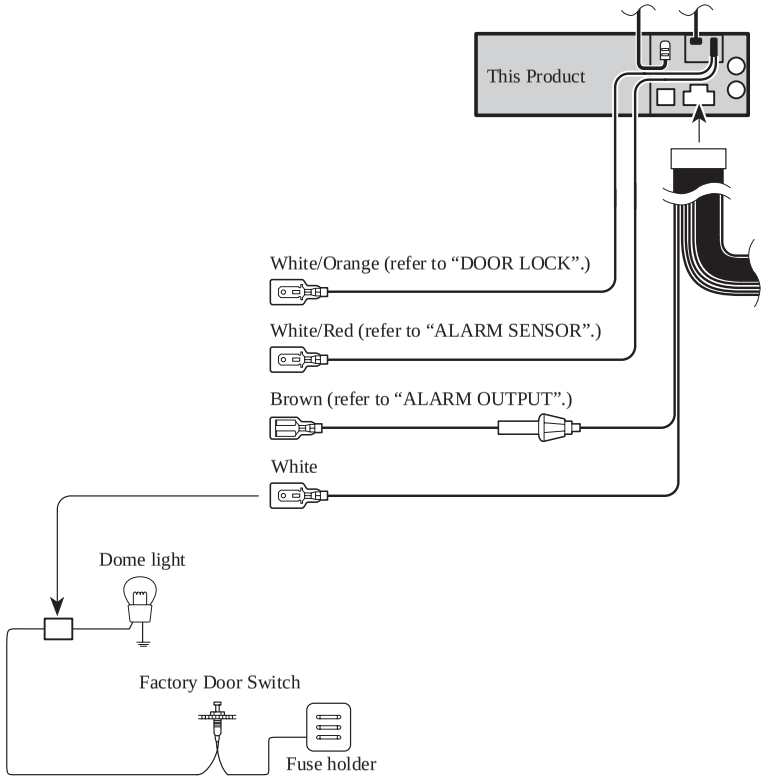


Fig. 28

Installing New Pin Switches

Separately sold pin switches are available that can be used to protect your vehicle's trunk, hood etc. When you purchase these, make sure that you first confirm that they can be used with your vehicle's door system type.
Follow the makers instructions as to installation and wiring.

ALARM OUTPUT (Brown)

The brown lead provides a +12 V, constant or pulsed output while alert is sounding. This lead has a maximum current capability of 500 mA and can be used to trigger a relay to sound a siren, horn or flash lights.

Recommended Wiring:

30 amp relay (sold separately) required to operate siren, horn or lights.

- Connect Brown wire to one side of relay coil.
- Connect ground to other side of coil.

For sirens, horns or lights requiring +12 V trigger

- Connect normally open to fused, constant +12 V source.

For horns or lights requiring ground trigger

- Connect normally open pin to ground.

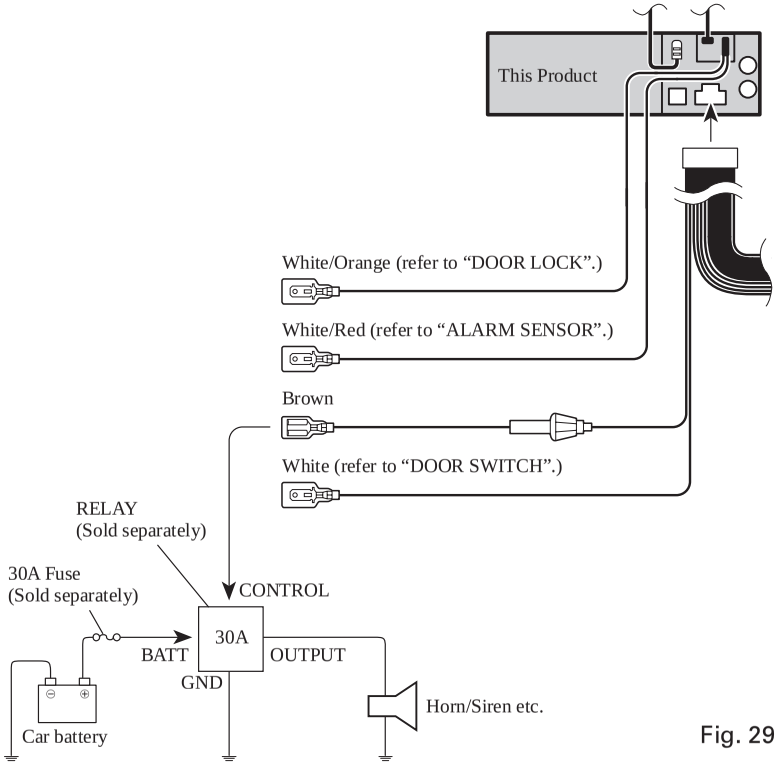


Fig. 29

ALARM SENSOR (White/Red)

The white/red lead is a negative triggered (Grounding) input that can be connected to various separately sold shock or glass sensors. There is no limit as to how many sensors are connected, so you can ensure total protection of your vehicle. Follow the makers instructions as to installation and wiring.

Note:

- If the shock sensor detects vehicle vibrations, use the negative (–) output type. If you use the positive (+) output type, the alert will sound continually, and the shock sensor will not operate correctly.

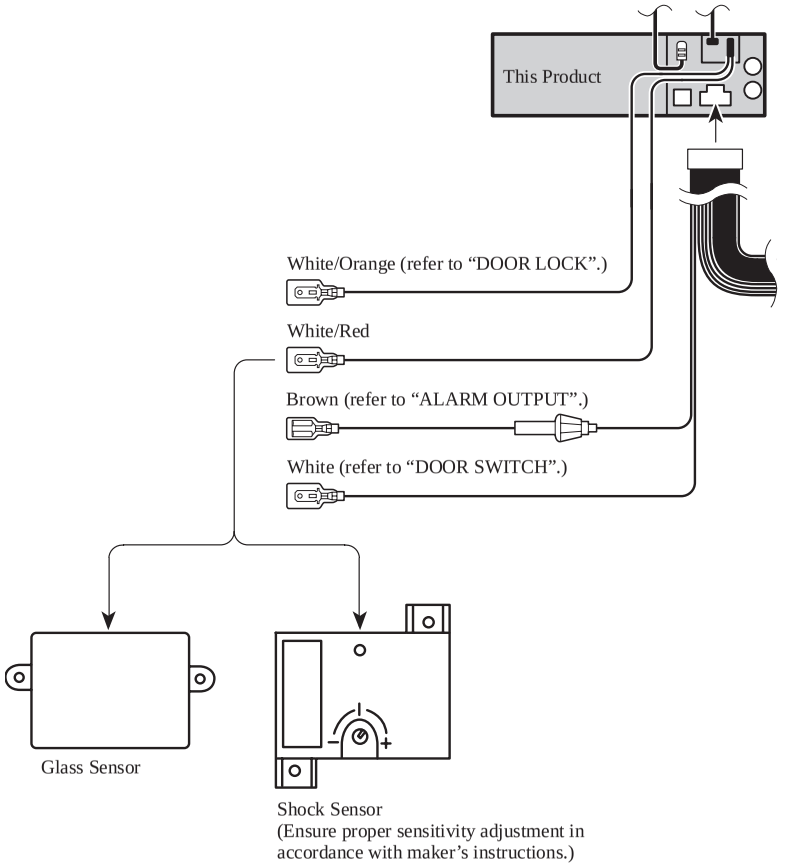


Fig. 30

- To ensure full proper operation of DFS Alarm, Pioneer suggests using only White/Red wire, electronic sensors capable of providing a pulse width greater than 64ms.

DOOR LOCK (White/Orange)

The white/orange lead should be connected to the “unlock” lead for your vehicles door locking system, so that when you open the driver’s door by your vehicle’s remote control, your Pioneer DFS Alarm is deactivated.

First, locate the two wires from the lock/unlock switch that operate the factory door lock solenoids for the driver’s side. Using a meter, determine which lead is used to unlock the door; connect this to the white/orange lead of your Pioneer Car Stereo. In the DFS Alarm Setting Menu, select the door-lock system type according to your vehicle (grounding or non-grounding).

If you have difficulty wiring this connection, please consult your nearest Installation specialist.

Note:

- If your vehicle is equipped with a central door lock but the glass or shock sensor is not connected, if the window is broken and the central door lock is released, this unit’s DFS Alarm will not operate.
- Pioneer recommends that both a shock sensor and glass sensor be installed when you are using the “Remote Disarming” feature.

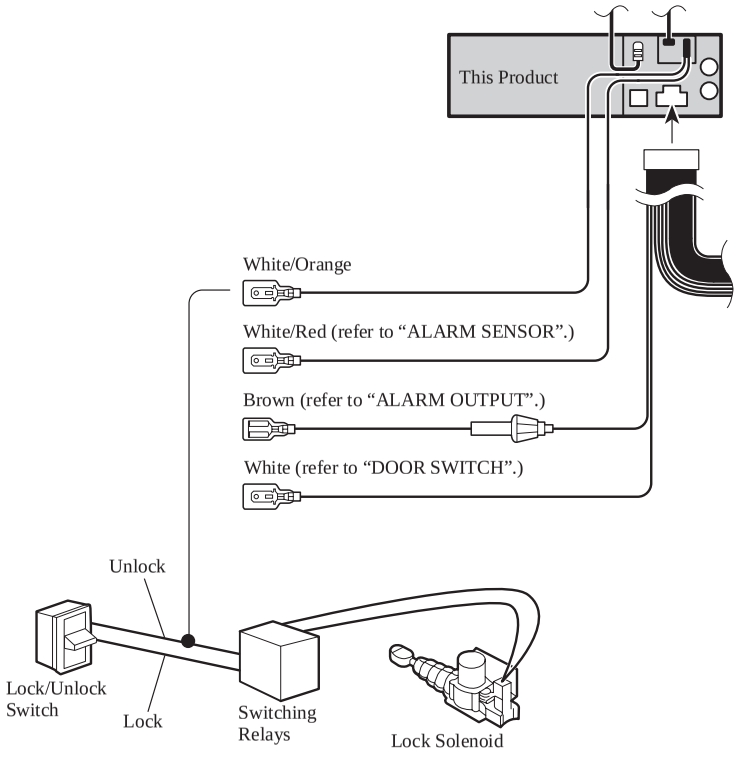
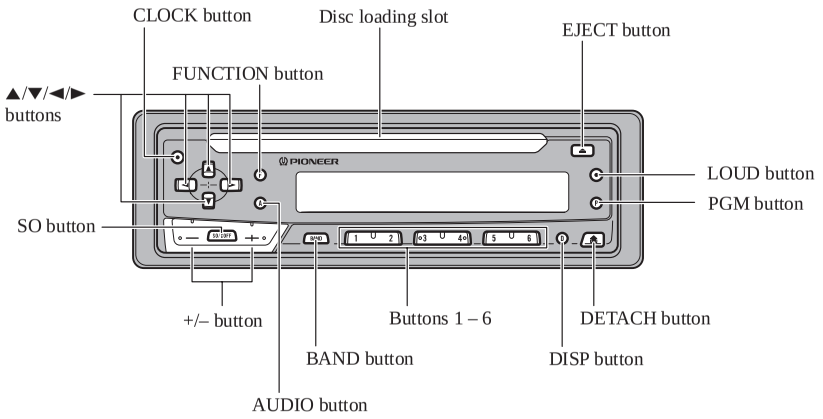


Fig. 31

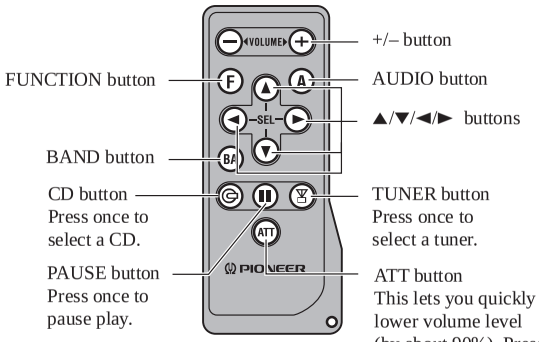
Key Finder

Head Unit



Remote Controller

A remote controller that enables remote operation of the head unit is supplied. Operation is the same as when using buttons on the head unit.



Remote Controller and Care

Using the Remote Controller

This product is equipped with a remote controller for convenient operation.

- Point the controller in the direction of the front panel to operate.

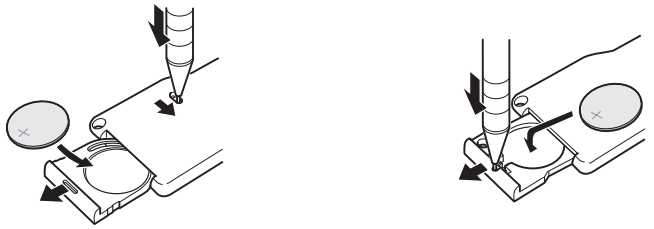
Precaution:

- Do not store the remote controller in high temperatures or direct sunlight.
- The controller may not function properly in direct sunlight.
- Do not let the remote controller fall onto the floor, where it may become jammed under the brake or accelerator pedal.

Battery

There are two types of remote controller. Refer to the illustration that applies to your supplied remote controller, and load the battery accordingly.

- **Slide the tray out of the back of the remote controller and insert the battery with the (+) and (–) poles pointing in the proper direction.**



Replacing the Lithium Battery:

- Use only lithium battery “CR2032”, 3 V.

Precaution:

- Remove the battery if the remote controller is not used for a month or longer.
- If the event of battery leakage, wipe the remote controller completely clean and install a new battery.

⚠ WARNING:

- Keep the Lithium Battery out of reach of children. Should the Battery be swallowed, immediately consult a doctor.

⚠ CAUTION:

- Do not recharge, disassemble, heat or dispose of battery in fire.
- Use a CR2032 (3 V) Lithium Battery only. Never use other types of battery with this product.
- Do not handle the battery with metallic tools.
- Do not store the Lithium Battery with metallic materials.
- Dispose of the used Lithium Battery, in compliance with applicable laws and regulations.
- Always check carefully that you are loading battery with its (+) and (–) poles facing in the proper directions.

Basic Operation of Tuner

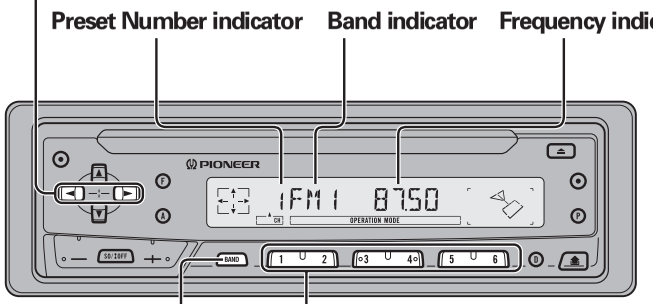
Reset the AM tuning step from 9 kHz (the factory preset step) to 10 kHz when using the tuner in North, Central or South America. (Refer to page 36)

Manual and Seek Tuning

- **You can select the tuning method by changing the length of time you press the ◄/► button.**

Manual Tuning (step by step)	0.3 seconds or less
Seek Tuning (automatically)	0.3 – 2 seconds
Manual Tuning (continuously)	2 seconds or more

Note:
- "◯◯" stereo indicator lights when a stereo station is selected.



Band

FM 1 → FM 2→ FM 3 → AM

Preset Tuning

- **You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.**

Preset station recall	2 seconds or less
Broadcast station preset memory	2 seconds or more

Note:
- Up to 18 FM stations (6 in FM1, FM2 and FM3) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

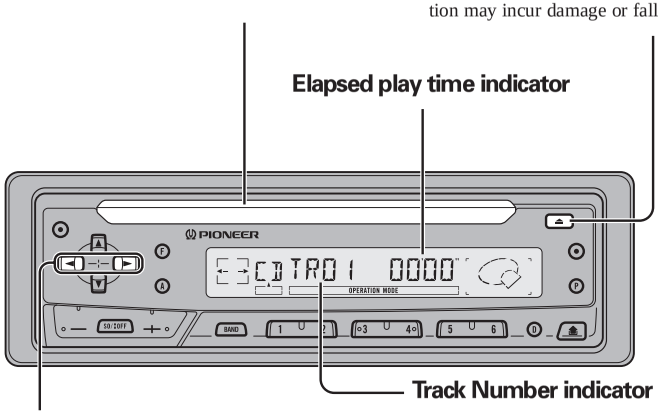
Basic Operation of Built-in CD Player

Disc Loading Slot

The built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.

Eject

Note:
- The CD function can be turned ON/OFF with the disc remaining in this product. (See page 8.)
- Discs left partially inserted after ejection may incur damage or fall out.



Track Search and Fast forward/Reverse

- **You can select between Track Search or Fast forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast forward/Reverse	Continue pressing

Note:
- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Push the EJECT button and check the disc for damage before reinserting it.
- If a CD is inserted with the recorded side up, it will be ejected automatically after a few moments.
- If the built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display. Refer to "Built-in CD Player's Error Message" on page 49.

Basic Operation of Multi-CD Player

This product can control one or more multi-CD players. (There are some types of multi-CD players such as CDX-P630S which you cannot connect more than one.)

Switching the Multi-CD Player

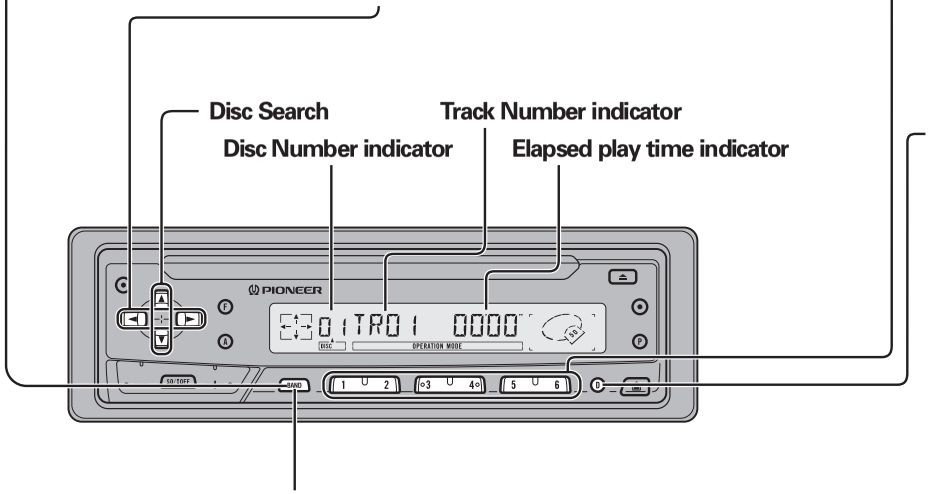
Using a multiple connection adapter lets you connect up to three Multi-CD players.

M-CD 1 → M-CD 2→ M-CD 3
(Displaying for about 2 seconds.)

Track Search and Fast forward/Reverse

- **You can select between Track Search or Fast forward/Reverse by pressing the ◄/► button for a different length of time.**

Track Search	0.5 seconds or less
Fast forward/Reverse	Continue pressing



Ejecting a Single Disc (for 50-Disc type only)

- **Press the BAND button for 2 seconds or more, and you can eject the currently playing disc from the extra tray.**

  (Refer to the operation manual for the 50-Disc type Multi-CD player for details concerning disc ejection from the extra tray.)

Note:
- This function does not operate if a disc is already loaded in the extra tray.

Disc Number Search (for 6-Disc, 12-Disc types)

- **You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.**

Note:
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds or longer.

Disc Number Rough Search (for 50-Disc type only)

This handy function lets you select discs loaded in a 50-Disc Multi-CD Player using the 1 to 5 buttons. The 50 discs are divided into five blocks, with each of the 1 to 5 buttons assigned to a block.

- **Select the desired block with the 1 to 5 buttons.**

Note:
- After completing a rough search, use the ▲ and ▼ buttons to select a desired disc.

Switching between displays

- **Each time you press the DISP button, the display switches between Disc Title and Group indications for the disc currently playing.**

  Playback mode (Elapsed play time) → Disc Title → Music Group

Note:
- Music Group display is a 50-Disc type Multi-CD player function. You cannot switch to this display with 6-Disc and 12-Disc type Multi-CD players.
- If you switch displays when disc titles have not been input or when discs have not been allocated to a music group, “NO TITLE” or “NO GROUP” is displayed for about 8 seconds.

Note:
- The multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. “READY” is displayed.
- When a magazine is loaded into a 50-Disc type Multi-CD Player, information on all the discs in the magazine is read.
  If you start playing a disc on a 50-Disc type Multi-CD Player before reading of information on all discs has been completed, reading of information stops part way through. This will prevent you from using a number of functions. (If you try and use these functions, “NOT READY” is displayed.)
  If this happens, reading of information begins again when you switch to a component other than the 50-Disc type Multi-CD Player.
- If the multi-CD player cannot operate properly, an error message such as “ERROR-14” is displayed. Refer to the multi-CD player owner’s manual.
- If there are no discs in the multi-CD player magazine, “NO DISC” is displayed.
- “LOAD” will be displayed in the following cases:
  * If the disc in the extra tray in selected.
  * If the disc in moved from the extra tray to the magazine.
    (Refer to the 50-Disc type multi-CD player owner’s manual.)

Local Seek Tuning (LOCAL)

When Local mode is ON, you can only select broadcast stations providing strong reception.

1. **Press the FUNCTION button and select the Local mode (LOCAL) in the Function Menu.**

2. **Switch the Local mode ON/OFF with the ▲/▼buttons.**

"LOC"

3. **Select the desired Local Seek sensitivity with the ◄/► buttons.**

FM : LOCAL 1 ↔ LOCAL 2 ↔ LOCAL 3 ↔ LOCAL 4
AM : LOCAL 1 ↔ LOCAL 2

Note:
- The LOCAL 4 setting allows reception of only the strongest stations, while lower settings let you receive progressively weaker stations.

Best Stations Memory (BSM)

The BSM function stores stations in memory automatically.

1. **Press the FUNCTION button and select the BSM mode (BSM) in the Function Menu.**

2. **Switch the BSM ON with the▲ button.**

The stations with the strongest signals will be stored under buttons 1–6 and in order of their signal

- **To cancel the process, press the▼ button in the Function Menu before memorization is complete.**

Using the Built-in CD Player

Repeat Play (REPEAT)

Repeat Play plays the same track repeatedly.

1. **Press the FUNCTION button and select the Repeat mode (REPEAT) in the Function Menu.**
2. **Switch Repeat Play ON/OFF with the ▲/▼buttons.**

Note:
- If you perform Track Search or Fast forward/Reverse, Repeat Play is automatically canceled.

Random Play (RANDOM)

Random Play plays the tracks on a CD in random order for variety.

1. **Press the FUNCTION button and select the Random mode (RANDOM) in the Function Menu.**
2. **Switch Random Play ON/OFF with the ▲/▼buttons.**

Scan Play (T-SCAN)

Scan Play plays the first 10 seconds or so of each track on a CD in succession.

1. **Press the FUNCTION button and select the Scan mode (T-SCAN) in the Function Menu.**
2. **Switch the Scan Play ON with the ▲button.**

3. **When you find the desired track, cancel scan play with the ▼button.**

   If the Function Menu is automatically canceled at this time, select the Scan mode in the Function Menu once more.

Note:
- Scan Play is canceled automatically after all the tracks on a disc have been scanned.

Pause (PAUSE)

Let's you pause play of the track currently playing.

1. **Press the FUNCTION button and select the Pause mode (PAUSE) in the Function Menu.**
2. **Switch the Pause ON/OFF with the ▲/▼buttons.**

Note:
- One-touch operation is possible with the remote controller.

Disc Title Input (TITLE IN)

You can use "TITLE IN" to input up to 48 disc titles for CDs in the built-in CD player. (Refer to "Disc Title Input" on page 28 under "Using Multi-CD Players".)

Note:
- If you connect a Multi-CD player, you can input disc titles for up to 100 discs.

8.2 SPECIFICATIONS

General

Power source ..... 14.4 V DC (10.8 – 15.1 V allowable)
Grounding system ..... Negative type
Max. current consumption ..... 10.0 A
Dimensions
(DIN) (chassis) .... 178 (W) × 50 (H) × 150 (D) mm
(nose) ..... 188 (W) × 58 (H) × 19 (D) mm
(D) (chassis) .... 178 (W) × 50 (H) × 155 (D) mm
(nose) ..... 170 (W) × 48 (H) × 14 (D) mm
Weight ..... 1.4 kg

Amplifier

Continuous power output is 20 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output ..... 40 W × 4
Load impedance ..... 4 Ω (4 – 8 Ω allowable)
Preout output level/output impedance ..... 500 mV/1 kΩ
Tone controls
(Bass) ..... ±12 dB (100 Hz)
(Treble) ..... ±12 dB (10 kHz)
Loudness contour ..... +10 dB (100 Hz), +7 dB (10 kHz) (volume: –30 dB)

CD player

System ..... Compact disc audio system
Usable discs ..... Compact disc
Signal format ..... Sampling frequency: 44.1 kHz
Number of quantization bits: 16; linear
Frequency characteristics ..... 5 – 20,000 Hz (±1 dB)
Signal-to-noise ratio ..... 94 dB (1 kHz)(IEC-A network)
Dynamic range ..... 90 dB (1 kHz)
Number of channels ..... 2 (stereo)

FM tuner

Frequency range ..... 87.5 – 108 MHz
Usable sensitivity
..... 11 dBf (1.0 µV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity .... 16 dBf (1.7 µV/75 Ω, mono)
Signal-to-noise ratio ..... 70 dB (IEC-A network)
Distortion ..... 0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response ..... 30 – 15,000 Hz (±3 dB)
Stereo separation ..... 40 dB (at 65 dBf, 1 kHz)

AM tuner

Frequency range ..... 531 – 1,602 kHz (9 kHz)
530 – 1,710 kHz (10 kHz)
Usable sensitivity ..... 18 µV (S/N: 20 dB)
Selectivity ..... 50 dB (±9 kHz)
50 dB (±10 kHz)